Anne Charlotte Watson
1805

AN

INTRODUCTION TO MUSIC:

IN WHICH

THE ELEMENTARY PARTS OF THE SCIENCE,

AND THE PRINCIPLES OF
THOROUGH BASS AND MODULATION,

AS ILLUSTRATED BY THE

MUSICAL GAMES AND APPARATUS,

ARE FULLY AND FAMILIARLY EXPLAINED,

WITH COPIOUS EXAMPLES:

TOGETHER WITH

A DESCRIPTION OF THE APPARATUS,

COMPLEAT DIRECTIONS FOR PLAYING THE SEVERAL GAMES,
WITH INTRODUCTORY AND ADDITIONAL GAMES,
ILLUSTRATING THE DIFFERENT CLIFFS,

ON A PLAN ENTIRELY NEW.

BY ANNE GUNN, (LATE YOUNG.)

Où il s'agit de faire penser.

MONTESQUIEU.

EDINBURGH:

PRINTED BY C. STEWART AND CO.

SOLD BY MUIR, WOOD, AND CO. LEITH STREET, EDINBURGH;
AND BY PRESTON, NO. 97. STRAND, LONDON,
WHERE THE MUSICAL GAME TABLES ARE SOLD.

1803.

DEDICATED

TO HER ROYAL HIGHNESS

THE

PRINCESS CHARLOTTE,

WITH THE

MOST PROFOUND RESPECT,

AND WITH THE

MOST SINCERE WISHES,

FOR HER

IMPROVEMENT IN EVERY VIRTUE,

AND IN EVERY

USEFUL AND ORNAMENTAL ACCOMPLISHMENT.

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PREFACE

PREFACE.

TO communicate knowledge to young perſons, to engage and fix their attention, to render the ſubjects of inſtruction ſimple, and commenſurate to the powers of their underſtanding, and to impreſs them upon themind, ſo as they may be readily and diſtinctly recollected, and thus conſtitute a real and permanent acquiſition, has always been found to be a work of much difficulty and delicacy. This may be effected in two ways; either by ſteady and rigorous diſcipline, or by employing ſome means which may engage the fancy, and rendering the ſubjects of inſtruction, in ſome degree, amuſing and intereſting. The laſt is certainly to be preferred, whenever it is

practicable. The means which may be deviſed for attaining this end are various, and muſt differ according to the capacity, the character, and diſpoſition of the pupil. There is one thing, however, in which all children agree, and that is a fondneſs for ſport or play. Proceeding upon this principle, various ſucceſsful attempts have been made, to invent certain ſports or games, which afford amuſement, and at the ſame time communicate, or impreſs upon the memory, ſome branches of uſeful knowledge.

The importance and utility of ſuch methods become the greater, when the branch of knowledge, to be illuſtrated or impreſſed, is in any degree abſtract or complicated, and when it conſiſts of a number of particulars, of which the mind, for ſome time, takes but a ſlight hold, and which cannot be readily recollected, nor diſtinctly underſtood, without frequent repetition and exerciſe. Of this deſcription is that branch of knowledge which

which is called the Science of Muſic, and which comprehends the principles and rules of modulation and harmony. This ſcience, though beautiful in itſelf, and intereſting from its intimate connection with one of the moſt delightful of human arts, naturally branches out into a number of particulars, which have ſeldom been very happily brought together, or preſented in a clear and ſyſtematic view, by thoſe who have treated of it. In conſequence of this, it has generally been conſidered as complicated and abſtruſe, inſomuch that few have had the reſolution to enter upon the ſtudy of it, and fewer ſtill have had the perſeverance neceſſary to arrive at any conſiderable proficiency.

FROM conſiderable experience in teaching muſic, the Inventor of the Games, which are deſcribed in the following pages, has been convinced, that a more accurate and extenſive knowledge of its principles, than is communicated in the uſual courſe of inſtruction, is neceſſary

neceſſary to enable a perſon to perform a muſical compoſition, with that readineſs, and accurracy, with that juſt expreſſion, and with that perception of the meaning and connection of its ſeveral parts, which alone can produce the intended effect, or communicate real ſatisfaction to an intelligent hearer. Deſtitute of this knowledge, a performer is often in the ſituation of a perſon who rehearſes, or reads, from the mere knowledge of characters, what has been compoſed or written in an unknown language. From the want of a familiar acquaintance with the keys and ſignatures, he is apt to be alarmed and diſconcerted at every new occurrence, and from ignorance of the principles of harmony and modulation, he is liable, when attempting accompaniment, or occaſional embelliſhment, for which he has no written characters, to fall into offenſive miſtakes.

UNDER the influence of that conviction, employed as ſhe was, in conducting the muſical education of young ladies, ſhe has ever been anxious to render her own acquaintance with the ſcience more extenſive and accurate. In the efforts which ſhe made with this view, ſhe received occaſional aſſiſtance from one, upon whom it had devolved, in early life, to act towards her the part of a protector and father, as well as of a brother; and who has been in uſe to unbend his mind, from the duties and occupations of a ſerious profeſſion, by indulging a conſtitutional propenſity to the ſtudy and practice of muſic. The knowledge which ſhe had acquired, ſhe endeavoured to communicate to her pupils; and ſhe had the ſatisfaction to find, that by induſtry, perſeverance, and addreſs, and by occaſionally enlivening the ſubjects, in themſelves dry and diſcouraging, by ſportive and fanciful alluſions, and thereby maintaining their attention and good humour, the elementary

parts

parts of muſical ſcience could be conveyed to children. Subſequent experience convinced her, that it is of great importance, that the drudgery of the elementary parts ſhould be got over in early life, as grown perſons are ſeldom diſpoſed to beſtow the neceſſary attention and application.

ALTHOUGH, however, ſhe frequently ſucceeded beyond her expectation, in communicating knowledge, and although the ſubjects of inſtruction ſeemed, at the time, to be comprehended with tolerable clearneſs and accuracy, ſhe yet found it extremely difficult to impreſs and fix it in the mind. She had often the mortification to perceive, that what had been acquired at one leſſon, was almoſt effaced at the next; that ideas, which appeared to be clear, had become confuſed and obſcure, and that the ſame ground was again to be travelled over. Frequent repetition of the ſame inſtructions, though often neceſſary and unavoidable, are irkſome and diſcouraging

ing to both teacher and pupil. The former cannot always refrain from betraying ſome undue degrees of fretfulneſs and impatience; nor can the latter avoid feeling mortification and diſguſt. It appeared, therefore, to be extremely deſirable, for the comfort and advantage of both parties, that ſome means ſhould be deviſed, by which they might be in ſome meaſure relieved from ſuch diſtreſſing and formal repetitions, and thoſe inſtructions be rivetted and ſecured, in a manner more pleaſing and alluring.

To throw ſome of the moſt important leſſons into the form of game, or amuſement, appeared to be a very likely means of effecting that object. She, accordingly, was earneſtly deſirous, that ſome ſuch games ſhould be contrived; and as nothing that had been done in that way, as far as ſhe had obtained information, embraced the objects which ſhe had in view, ſhe was at laſt induced to make the attempt herſelf. The particular circumſtances

ſtances and occurrences, the trains of thought, and the accidents which progreſſively led to the contrivance of the apparatus and games, the various difficulties and diſcouragements, which ſucceſſively preſented themſelves, and by what means they were ſurmounted, are too unimportant to be detailed in this place. It may be ſufficient to ſay, that for ſome years, it has employed her moſt anxious thoughts, and been the moſt intereſting occurrence of her life. After the invention had been brought to ſome degree of maturity, ſhe repeatedly tried the efficacy of the games upon her pupils; and had the ſatisfaction to find, that they generally entered into them with ardor; that to play a muſical game was eagerly accepted of as the reward of diligence; and, what was of much greater importance, ſhe found, that the wiſhed for object had in a conſiderable degree been attained, and that the practice of the games, did actually impreſs and fix in the mind, and render eaſy and familiar, the various

ous branches of muſical knowledge, to which they refer. The Game Tables have accordingly, ſince that time, been conſtantly and ſucceſsfully employed by her, in the courſe of her own teaching, as an inſtrument or vehicle of muſical inſtruction. Encouraged by this experience, ſhe has ventured to lay them before an impartial public.

THE great and ultimate object of the Games, is to facilitate the acquiſition of muſical ſcience. Subordinate to this, it has been the wiſh of the inventor to render them amuſing and intereſting. For this purpoſe ſeveral regulations and modes of playing have been contrived and preſcribed, eſpecially in the firſt and third Games, which, while not inconſiſtent with, but rather conducive to the principal deſign of them, ſerve to render the chances more various and complicated, and thus to keep the minds of the players intent and active, and to communicate that

anxiety, and that gentle agitation, ariſing from the fluctuations of good and bad fortune, which conſtitute the great charm of other games. In this view, the Muſical Games may be regarded as an humble attempt, to render ſubſervient to the acquiſition of uſeful knowledge, or ornamental accompliſhment, thoſe energies of mind, which are exerted in ſtudying, and that large portion of time which is conſumed in practiſing a variety of Games, the ultimate object of which, is nothing farther than relaxation and amuſement.

When the Games were publiſhed in 1801, they were received by ſome of the moſt intelligent and judicious maſters, as well as by many ingenious amateurs, with a degree of attention and approbation, which was very gratifying to the inventor, and demands her warmeſt acknowledgements: Along with the Game Tables there was delivered a ſmall book,

book, containing a deſcription of the apparatus, and ſuch an explanation of the objects and ſtructure of the ſeveral games, as might enable maſters, and thoſe who were acquainted with the principles of muſic, to play them, or to overſee and direct others. This was deemed ſufficient, at that time, for putting the Public in poſſeſſion of the Games. Although, however, the book was found and acknowledged, to be abundantly clear and explicit, for this purpoſe, to the initiated and inſtructed; to others, into whoſe hands the Tables might come, it did not afford ſufficient light to enable them to play the Games, or to enter into the deſign and ſpirit of them. The conſequence of this has been, that thoſe Games, which may undoubtedly be comprehended and played by children, were often conſidered by grown perſons as intricate and puzzling.

This was ſoon obſerved with regret, by ſome eminent maſters and others, who, from

a conviction of the utility of the Games, were deſirous, that the knowledge and practice of them ſhould be more extenſively diffuſed. They expreſſed a wiſh, that the book which accompanied the Tables, ſhould not only deliver the rules for playing the Games, but ſhould alſo communicate the ſeveral branches of muſical ſcience to which they refer, ſo as that perſons yet uninitiated, and who had not the opportunity of oral inſtruction, might be able to comprehend them, and to practiſe the Games with advantage. If this were done, they were pleaſed to ſay that families in the country, or at a diſtance from maſters, might, even in their hours of relaxation and amuſement, acquire a larger portion of muſical knowledge than is poſſeſſed by the generality of performers. In compliance with the ſuggeſtions of thoſe friends to the invention, the Introduction contained in the following pages was prepared, and is now humbly preſented to the public. It is hoped, that the particular occaſion

caſion and object, above ſtated, may ſerve as an apology, for obtruding a work, which, ſo far as it goes, may be conſidered as a Treatiſe on Muſic, and which, from the number of excellent books upon that ſubject, already publiſhed, may to ſome appear as ſuperfluous.

As the Games are chiefly conſtructed in reference to the keyed inſtruments, with a view to enable thoſe who have not applied to thoſe inſtruments, to underſtand and go along with them, the Introduction ſets out with a deſcription of the *Clavier*, or *Key-Board*.

THE ſecond Chapter treats of the *Notation* of Muſic, or the mode of repreſenting the ſeries of muſical ſounds by written characters. The explanation which is here given of the ſeveral cliffs, and the ſcheme with which it is accompanied, it is hoped, may in a conſiderable degree remove the difficulty,

ty, which ſo many performers find, in underſtanding them and playing from them.

ALTHOUGH *Time* and *Meaſure* do not enter into the plan of the Games, it has been thought proper to add a ſhort chapter upon theſe ſubjects, on account of their importance, and that the book may, in ſome degree, anſwer the purpoſe of an elementary treatiſe.

THE *Intervals* of muſic, the ſimple elements, of which melody and harmony conſiſt, form the ſubject of the fourth chapter; which, it is hoped, will not be looked upon as too tedious or minute, when it is conſidered, that without a familiar acquaintance with intervals, no real progreſs in muſical knowledge can be made.

THE conſtitution of the *Scale of Octave*, in the two modes of muſic, and what is called the *Syſtem of Modulation*, that is, the different keys or tranſpoſitive ſcales, in which muſic

is

is written, as they naturally ſucceed one another, according to the order by 5ths and by 4ths, are explained in the 5th chapter. Each of theſe ſucceſſions, in both the modes, is carried compleatly round the ſyſtem, or to twelve ſharps and twelve flats. Experience has proved the advantage of this, for enabling the ſtudent to comprehend, with clearneſs, the mixed ſyſtem which muſicians have adopted, and for effectually obviating the embaraſſment and perplexity, which performers frequently experience, from the great range of modulation, which often appears in the modern muſic, from the introduction of keys with many ſharps and flats, and from the ſudden change of the notation from the one ſpecies to the other.

WHAT is explained in theſe chapters, is ſufficient to qualify the ſtudent for playing the three firſt games, of which the deſcription and rules immediately follow. The object of theſe games is to give ſuch exerciſe

exerciſe in ſetting up the ſignatures of keys, and the intervals of muſic, as, while it affords amuſement and excites intereſt, may impreſs them upon the memory, and render them familiar to the mind. The 1ſt Game, as it was delivered in the former publication, requires the players to carry on, at the ſame time, the two modes of muſic, and to ſet up the ſignatures of keys, upon treble and upon baſs ſtaves. As theſe various objects were ſometimes found to diſtract the attention of young perſons, there is now prefixed to it an introductory game in which the different modes and ſtaves are practiſed ſeparately. This may ſerve as a preparation for the 1ſt Game, but is by no means intended to ſuperſede the uſe of it.---The 2d Game of the former publication, which now ſtands as the 3d game, is preceded by an introductory game in three parts, by which the different cliffs, in which muſic is written, are illuſtrated; and amuſing exerciſes upon them, are preſcribed, on a new plan. The importance and

utility

utility of this, will be readily acknowledged, when it is conſidered that, from ignorance of the tenor cliffs, much valuable muſic, imported from the Continent, is rendered uſeleſs to many, otherwiſe excellent performers.

THE ſtudent, who, by the practice of theſe games, has become familiarly acquainted with the ſignatures, cliffs, and intervals, may now proceed to a more intereſting branch of the ſcience, the doctrine and practice of *Harmony*. The Introduction, therefore, is here reſumed, and the principal chords or harmonical combinations which occur in muſic, as they ſtand ſingle or ſucceed one another, according to certain laws and uſages, the different forms in which they appear, and the numeral cyphers by which they are denoted, are explained at large in the 6th and 7th chapters, and illuſtrated by examples in muſical notes. The 7th chapter concludes with a deſcription of ſome preludes, muſical phraſes, or ſucceſſions of chords, which may be

practiſed with advantage in the different keys, as exerciſes upon the chords. Theſe chapters prepare for playing the 4th Game, the deſcription and rules of which immediately follow.

THE method, which has been adopted for explaining the chords and cadences, is nearly that of the late ingenious Mr Holden, in his "Eſſay towards a rational ſyſtem of muſic*;" as that method, independent of all conſiderations of general theory, ſeems to give the moſt diſtinct and connected views of the ſubject,

* This excellent work, which has never been ſo generally known as it deſerves, and which, from being out of print, has for many years ceaſed to be in the view of the public, is now reprinting at Edinburgh, by C. Stewart & Co.; and, in the mean time, a ſheet of it is given with each Number of the Vocal Magazine, publiſhed there by J. Sibbald. The deſcription of the time characters of muſic, given in paragraphs 19, 20, 21, and 22 of the ſecond chapter of this work, with the illuſtrative examples, are moſtly tranſcribed from that book, and may ſerve as ſpecimens of the clearneſs and accuracy of the author's ſtatements.

ſubject, and ſuch as may be moſt eaſily comprehended and retained in the memory.

THE eighth chapter gives an explanation of the rule of the octave, or of the chords or accompaniments, which are moſt uſually given to the ſeveral degrees of the ſcale, both in the major and minor mode, when they proceed diatonically or in regular ſucceſſion, either aſcending or deſcending *. This chapter is a preparation for the fifth game, the deſcription and rules of which next follow.

THE ninth chapter treats of the reſolution of *diſcords*, and ſerves to prepare for playing the firſt part of the ſixth game.

As

* The rule of octave, practiſed in all keys, is a moſt improving exerciſe. There may be objections to the aſcending ſcale, conſidered as a whole; but the different portions of it, particularly the 1ſt, 2d, and 3d,—the 4th and 5th,—and the 6th, 7th, and 8th, when they occur ſeparately in baſs parts, are, for the moſt part, accompanied as this rule preſcribes.

As the ſecond part of that game is calculated to afford exerciſe upon that claſs of chords which have been called chords of ſubſtitution or borrowed harmony—upon the chords of major 7th —and upon the chord of ſuperfluous 6th;--- as theſe chords, in one ſhape or another, occur in almoſt every line of the modern muſic, and communicate to that muſic a conſiderable portion of that peculiar expreſſion and refinement by which it is diſtinguiſhed; it was thought proper to give ſome inſtructions with regard to them. They are accordingly treated of in the tenth chapter, under the general denomination of *chords by licence.*

The firſt and ſecond parts of the ſeventh game are introduced by a few preliminary inſtructions, illuſtrated by examples. The third and laſt part of that game is, for obvious reaſons, left as it ſtood in the former publication; ſerving as a ſketch or outline which

which may be variouſly filled up by maſters and proficients.

Such is the plan which has been purſued in the following work. Throughout the whole, perſpicuity and preciſion of expreſſion have been aimed at, rather than elegance. Words have not been ſpared, nor have even repetitions been anxiouſly guarded againſt; as the object conſtantly kept in view was to be eaſily underſtood, and as much as poſſible to avoid the danger of being obſcure or ambiguous, of leading the reader into doubt or miſtake, or of requiring too much thought and attention, to conceive and go along with what is written. Although what is here delivered is far from comprehending the whole ſcience of muſic; it is humbly hoped, that it may lay ſome claim to the title, which it has aſſumed, of an Introduction to Music.

In carrying on this progreſſive courſe of inſtruction, particularly that branch of it which

which relates to harmony, the ſtudent ought to practiſe the different exerciſes upon the pianoforte, before he proceed to work them upon the game tables, or what may be called the dumb clavier. By the former, his hand will acquire a readineſs in executing the ſeveral combinations and ſucceſſions, and his ear will be habituated to the *ſound* of them; by the latter, the *knowledge* of them will be imprinted in his mind. A young perſon who has a good ear, and is either of an impatient or of an indolent diſpoſition, if he makes a miſtake in ſtriking a chord upon an inſtrument, is immediately appriſed by his ear, that ſomething is wrong. In place, however, of endeavouring to correct his error by rule or principle, he ſearches about the inſtrument, tries one key after another, until he obtain a combination, that gives the ſound which he expected. Although, however, he may ſucceed in this, he has gained no advantage, and is not ſecure againſt falling into the ſame miſtake, at the next occurrence.

But

But upon the game tables, having no aſſiſtance or direction from his ear, he can only perform correctly by the efforts of his mind; and if he commit errors, he muſt hazard the loſs of his party.

THE inventor now again commits the Games, improved and explained, to the candour and indulgence of the Public. She will think the labour beſtowed upon them amply recompenſed, if they ſhall be found to facilitate the acquiſition of a liberal art and an elegant accompliſhment.

ERRATA.

Page 20. 7th line from the top, for 5, read 6.

—— 55. 7th line from the bottom, for "divides," read "divides itſelf." and for "ſyſtem read "ſyſtems."

—— 57. 5th line from the top, for "place" read "caſe."

—— 141. 5th line from the top, for "and" read "are."

—— 146. 3d and 4th line from the bottom, for "Plate II. Nos. 3, 4, and 5," read "Plate II. Nos. 8, 9, and 10."

——*170. Note.—2d line from the bottom, for "the 4th to which CD, as" read "the 4th to which is CD."

* The reader is particularly requeſted to correct this error with a pen.

INTRODUCTION.

CHAPTER I.

OF THE CLAVIER OR KEY BOARD.

1. THE Harpſichord, Pianoforte, and Organ, are all played in the ſame manner, viz. by ſtriking or preſſing down with the fingers, the touches or keys of the finger-board of the inſtrument, before which the performer is ſeated.

2. Each of theſe keys gives out a different note or muſical ſound. That which is fartheſt towards the left hand touches the groſſeſt and longeſt ſtrings, and gives out what is called the loweſt or graveſt note of the inſtrument. As they proceed from that towards the right hand, the ſtrings which they touch become gradually finer and ſhorter; and the notes which they utter are ſaid to be gradually higher, or more

acute, up to the key which is fartheſt towards the right hand, and which gives out what is called the higheſt or moſt acute note of the inſtrument.—This ſyſtem of notes, or muſical ſounds, aſcending by regular *gradations*, from grave to acute, has been denominated the SCALE of Muſic.

3. The ſmalleſt intervals (or differences in acuteneſs or gravity) by which regular muſic proceeds, are of two dimenſions, called Tones and Semitones, the former being conſidered as double of the latter. The ſtrings which are ſounded by the long keys are ſo tuned, that when they are ſtruck in regular ſucceſſion, upwards or downwards, the intervals betwixt the contiguous notes are always, alternately, two tones followed by one ſemitone, and three tones followed by one ſemitone. This regular alternation of two tones and of three tones, ſeparated always by one ſemitone, is ſuggeſted by the eſſential ſtructure of the muſical ſcale, and is carried on through the whole compaſs of the inſtrument. Betwixt every two long keys, the notes of which are tuned to the interval of tone, a ſhort key is interpoſed. This ſhort key ſounds a note intermediate in pitch betwixt the notes of the long keys, between which it is placed, being

acuter

acuter than the one and graver than the other, and thus dividing the tone of the long keys into two nearly equal parts, each of which is conſidered as a ſemitone. The ſhort keys accordingly appear to ſtand together by twos and by threes alternately.

4. The notes of the muſical ſcale are uſually named by the letters of the Alphabet, the more advanced letters, in the order of the Alphabet, expreſsing the higher or acuter notes. As, after ſeven notes have been ſounded by ſtriking the long keys in regular ſucceſſion, the very ſame arrangement of tones and ſemitones returns, and as the ſeveral notes of the next ſeries of ſeven have a remarkable ſimilarity or agreement in ſound with the correſponding notes of the former ſeries; Muſicians have univerſally agreed to denominate them reſpectively by the ſame letters: in other words, every note, and the eighth or *octave* above or below it, are named by the ſame letter. No more therefore than the firſt ſeven letters of the Alphabet are uſed for naming the notes of muſic, viz. A, B, C, D, E, F and G. When the ſeries is continued upwards, A becomes the next degree above G; and when it is continued downwards, G becomes the next degree below A.

5. The

5. The names of the long keys, or of the notes which are ſounded by them, are determined as follows. That which is betwixt the two ſhort keys that ſtand together is called D. This being known, wherever it occurs in the inſtrument, the others may eaſily be reckoned from it. Thus, the long key immediately below or to the left hand of it is C, and the one immediately above or to the right hand of it is E. Next to E is F, which is alſo immediately to the left hand of the firſt of the three ſhort keys which ſtand together. G is betwixt the firſt and ſecond of the three ſhort keys; A, betwixt the ſecond and third; and B, immediately to the right hand of the third ſhort key, and to the left of C.

6. The ſhort keys are occaſionally uſed in place of either of the two long keys, between which they are inſerted; and they always take the name of that one of them in whoſe place they are ſubſtituted. When they are uſed in place of the one below, or to the left hand, they have the name of that key with the word *ſharp* annexed to it, that term ſignifying a ſemitone higher. When they are uſed inſtead of the long key that is above, or to the right hand, they have the name of that key with *flat* added, that term implying

implying a ſemitone lower. Thus, the firſt or loweſt of the three ſhort keys which ſtand together, being placed betwixt the long keys F and G, is named F ſharp, or G flat; the next to that is either G ſharp or A flat; and the third is either A ſharp or B flat. Again, the firſt of the two ſhort keys which ſtand together, being betwixt the long keys C and D, is either C ſharp or D flat; and the other is either D ſharp or E flat. There being no ſhort keys betwixt B and C, and betwixt E and F, the intervals B C and E F are of courſe ſemitones (3); and are ſometimes called the natural ſemitones of the inſtrument, or ſcale, to diſtinguiſh them from thoſe which ſubſiſt betwixt the long and contiguous ſhort keys, which are conſidered as artificial.

As the interval betwixt the ſounds of the ſhort key C ſharp, and of the long key, D, or D natural, is a ſemitone; and the interval betwixt the ſounds of the long key D, and of the ſhort key D ſharp, is alſo a ſemitone; the interval betwixt the ſounds of the ſhort keys C ſharp and D ſharp, being the ſum of theſe, muſt be a tone. For the ſame reaſon, the intervals F ſharp G ſharp, and G ſharp A ſharp, are tones: and the ſame thing may be affirmed when the

the

ſeveral ſhort keys are reſpectively named by their flat denominations. Again, the interval B C ſharp, being compoſed of the natural ſemitone B C and the artificial ſemitone C C ſharp, muſt be a tone; and the interval E F ſharp muſt alſo be a tone. It may be therefore laid down as a rule, *that when betwixt two keys long or ſhort, one ſingle key ſhort or long intervenes, theſe keys give the interval of tone; and that when no key ſhort or long intervenes betwixt two keys, they give the interval of ſemitone.*—The Scale of the long keys, or the ſeries of ſounds proceeding duly by tones and ſemitones, (2), is called the *Diatonic* Scale, and is the proper and natural ſcale of muſic: the ſcale of the long and ſhort keys, or the ſeries of ſounds proceeding by ſucceſſive ſemitones, is called the *Semitonic*, and ſometimes the *Chromatic* Scale.

7. The whole ſeries of notes furniſhed by the Clavier may be called the Great Scale of Muſic. It is commonly divided into three portions, of which however, the limits are not accurately defined, viz. *Baſs*, *Tenor*, and *Treble*. The Baſs comprehends the lower or graver notes, thoſe namely, which are ſounded by the keys toward the left hand; the Treble comprehends the higher or more acute notes,

ſounded

founded by the keys toward the right hand; and the Tenor comprehends thoſe notes which are intermediate. Frequently, however, no other diviſion or diſtinction is made, but into Baſs and Treble; and the Tenor portion is underſtood to be diſtributed betwixt them. The loweſt note of a Pianoforte of the uſual modern conſtruction is F; the higheſt is alſo F, and is at the interval of five octaves above the former. Theſe octaves, or the ſeveral portions of the great ſcale betwixt F and F, proceeding from the loweſt upwards, may be thus named in order, Double Baſs Octave—Baſs Octave—Tenor Octave—Treble Octave—High Treble Octave.

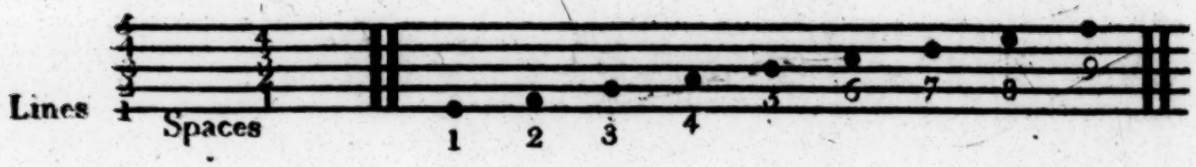
A delineation in miniature of a Clavier of this extent is preſented at each end of one of the faces of the muſical Game Tables, by which the various particulars deſcribed and explained in this chapter may be eaſily underſtood by thoſe who have not the opportunity of a Pianoforte.*

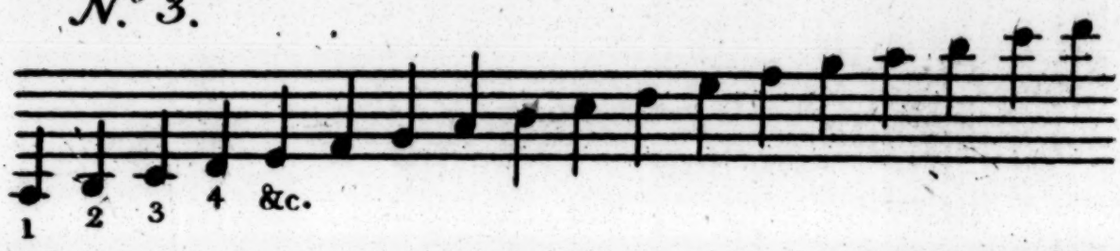
8. For the ſake of diſtinction, the denominations of the ſeveral degrees of the different octaves may be repreſented as follows: Thoſe of the loweſt

* See the Frontiſpiece.

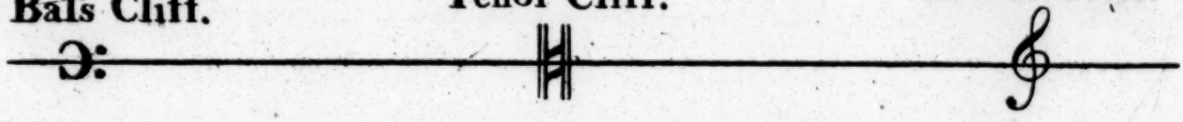
loweſt or double baſs octave, by double Roman capitals, F F, G G, A A, &c. of the next or baſs octave, by ſingle Roman capitals, F, G, A, &c. of the middle or tenor octave, by Italic capitals, *F*, *G*, *A*, &c. of the treble octave, by Roman ſmall letters, f, g, a, &c. and of the high treble octave, by Italic ſmall letters, *f*, *g*, *a*, &c. If the ſcale is continued, the laſt ſet of characters may be doubled.—According to this mode of repreſentation, the four open ſtrings of the violoncello will be uniſon, (that is, give out the ſame degree of ſound) with the keys C C, G, D, *A* of the Pianoforte: the four open ſtrings of the tenor violin, the ſame with the keys, C, *G*, *D*, a; and the four open ſtrings of the violin, the ſame with *G*, *D*, a, e.

CHAP-

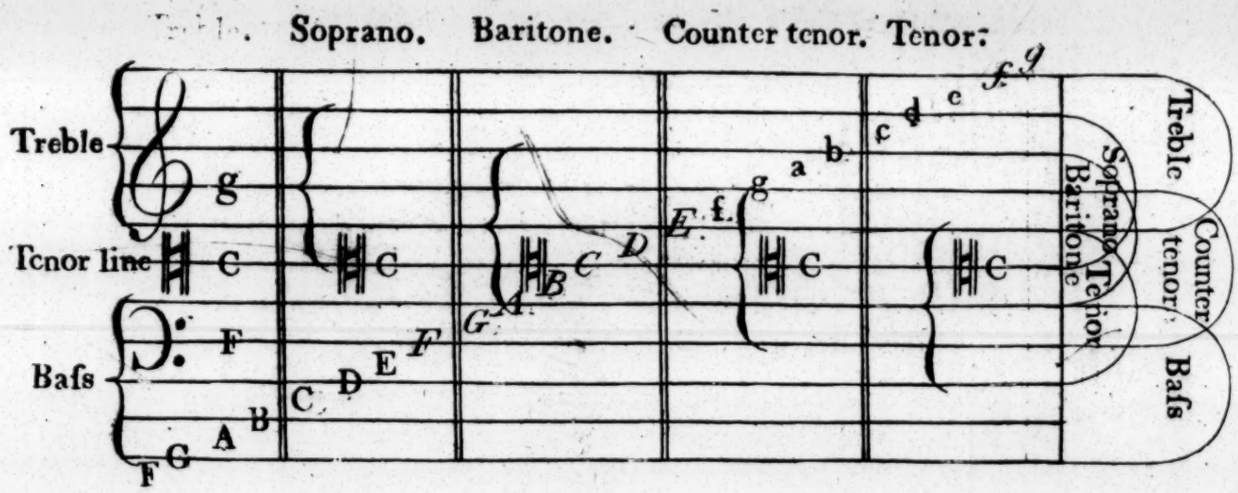
N.o 1. *N.o 2.*

N.o 3.



Baſs Cliff. Tenor Cliff. Treble Cliff.



N.o 4 The compleat or great Stave of Music.



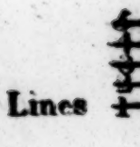
CHAPTER II.

OF THE NOTATION OF MUSIC.

9. THE relative pitch of muſical ſounds and the places which they reſpectively hold, in the great ſcale above deſcribed, are repreſented in written characters, by means of the *Stave* and *Cliffs*.

10. The muſical Stave or Staff is a ſyſtem of five parallel ſtraight lines, drawn near to one another and at equal diſtances. The loweſt of theſe is called the firſt line; the next above that, the 2d line, and the reſt in order to the 5th or uppermoſt line. The interſtice betwixt the 1ſt and 2d line is called the 1ſt ſpace; that betwixt the 2d and 3d line, the 2d ſpace, &c. [See Plate I. No. 1.] Upon each of theſe lines and ſpaces, and immediately under the loweſt and above the higheſt line, a note or character may be placed. Theſe notes being ranged in order upon the lines and ſpaces, from the lower to the upper part of the ſtave, may very naturally repreſent a certain por-

N.° 1.



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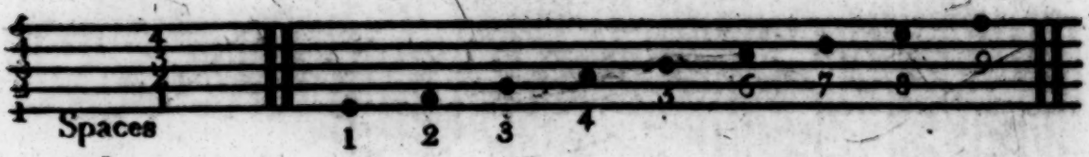
N.° 3.

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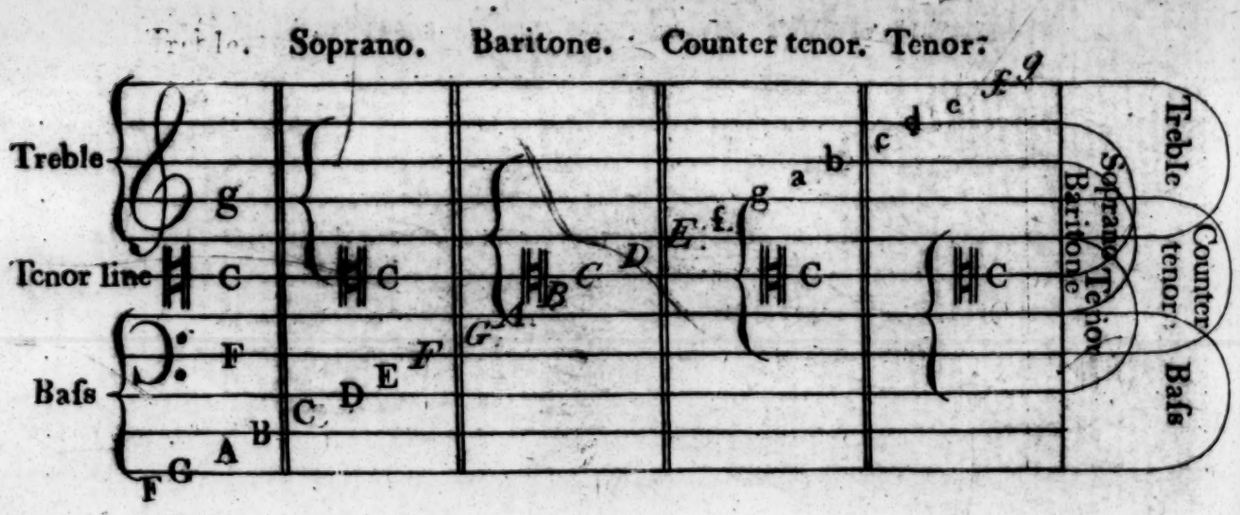

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tion of the great ſcale of muſic; the degrees repreſented by the ſeveral characters *riſing* in the ſcale, according as the characters *riſe* or appear in the higher lines or ſpaces of the ſtave. [Pl. I. No. 2.] Thus, whatever degree of the ſcale may be repreſented by a character placed immediately under the loweſt or firſt line, or by whatever letter it may be named; a character upon the firſt line will repreſent the next degree, and will be named by the next letter in the order of the muſical alphabet: a character in the 1ſt ſpace will repreſent the next above that: then, the 2d line, 2d ſpace, 3d line, 3d ſpace, &c. will expreſs the next degrees in order. If, for example, we ſuppoſe that the character under the 1ſt line repreſents F in any particular octave of the great ſcale, (7) a character upon the 1ſt line will repreſent G; upon the 1ſt ſpace, A; upon the 2d line, B; upon the 2d ſpace, C; upon the 3d line, D; upon the 3d ſpace, E; upon the 4th line, F, octave above the firſt note; upon the 4th ſpace, G; upon the 5th line, A; and above the 5th line, B. The repreſentation is extended for ſome degrees farther in either direction, by occaſionally drawing ſhort additional lines, above or below the ſtave, called leger lines. They are named the 1ſt, 2d, 3d, &c. leger lines above

above or below; and by means of them the ſeries is carried on, by lines and ſpaces, as in the ſtave itſelf. Pl. I. No. 3.

11. This mode of repreſenting the degrees of the muſical Scale appears yet to be imperfect in two reſpects. 1ſt. The ſtave, with all the leger lines that can be conveniently added to it, cannot comprehend much more than the half of the great ſcale. 2dly. It only marks the *relative ſituation* of the degrees; but does not aſcertain their *real pitch*, or their particular names and places in the great ſcale. Both theſe imperfections are remedied by the ſame means, viz. by the Cliffs.—Theſe are certain marks, which are reſpectively appropriated to denote certain *particular* degrees of the great ſcale; any one of which therefore, being placed at the beginning of the ſtave, and upon a certain line of it, determines that line to repreſent the degree which is denoted by the cliff mark, and no other. And this will of courſe determine all the other lines and ſpaces to repreſent particular degrees of the great ſcale, the names and places of which may be eaſily traced upwards and downwards,

downwards from the cliff line, in the manner which is explained in the laſt paragraph.

12. There are three cliffs or determining notes employed in muſic, correſponding to the three great diviſions of the Scale, viz. the Baſs, the Tenor, and the Treble Cliffs.

The Tenor Cliff is appropriated to repreſent C in the middle of the ſcale, or *C* of the Tenor octave (7). It is hence named alſo the C Cliff. Its character is generally compoſed of two black tranſverſe ſtrokes, connected with ſome fainter upright ſtrokes; the line of the ſtave which paſſes betwixt the tranſverſe ſtrokes being the Cliff line or Tenor C.*

The Baſs Cliff always marks *F*, the 5th degree in order below the tenor C, or the third F from the bottom of the ſcale. It is accordingly named the F Cliff. Its character is nearly the letter C reverſed, with

* Foreign Muſicians frequently denote the Tenor Cliff by two faint upright lines, with ſomething like the numeral figure 3 after them, croſſing the Cliff line.

with two dots towards the right hand; the line which runs between the dots being the Cliff line.

Laſtly, the Treble Cliff denotes g, the 5th degree of the Scale above the Tenor C, or g of the Treble Octave; and is alſo named the g Cliff. Its character was originally a ſmall g, of which the head croſsed the Cliff line, and the tail was carried with a flouriſh firſt upwards and then croſſed downwards. At preſent, the head of the g does not appear, but the flouriſh is retained, and the Cliff line is that which paſſes through the wideſt part of it.—Theſe characters engraven upon ivory plates will be found in each drawer of the Game Tables. See alſo Pl. I.

The Baſs Cliff character is now placed always upon the 4th line of the ſtave, and the Treble cliff character upon the 2d line. The character of the Tenor cliff is occaſionally placed upon all the lines except the 5th. When it is placed upon the 4th line, it is called the Tenor Cliff; when upon the 3d line, the Counter Tenor or Contralto; and when upon the 1ſt line, the Soprano Cliff.—In the Tables will be found a paper ſcreen, which covers all that face upon which the Claviers are delineated, except-

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ing the three Cliff keys, and thoſe which lie betwixt them; the baſs and treble cliff keys, being at the two extremities of the opening, and the tenor key in the middle. Above each of thoſe keys are ſeen the correſponding Cliff characters. Lines and arches are alſo drawn to mark out the different portions or diviſions of the great ſcale.

13. On the ſame face of the Tables, over each clavier there are two ſtaves, upon which the entire Scale of the inſtrument is written in muſical notes, riſing gradually by lines and ſpaces from the loweſt to the higheſt; each note being directly over or in a line with that long key of the clavier, whoſe ſound it repreſents. The lower ſtave is ſuppoſed to have the baſs cliff character upon its 4th line, and the upper ſtave to have the treble cliff character upon its 2d line.*

Upon the lower ſtave, beginning at the 4th or cliff line, which repreſents the third F of the inſtrument, and tracing the notes downwards and backwards by the ſpaces and lines, naming at the ſame time the letters backwards in order, we ſhall arrive at F, (the octave

* See the Frontiſpiece.

octave below, or 2d F of the inſtrument) repreſented by the note immediately under the 1ſt line of the ſtave: and proceeding in the ſame direction by the leger lines and ſpaces below the ſtave, we ſhall find F F, (the loweſt ſound of the inſtrument) upon the 4th leger line below. Beginning again at the 4th line *F* and proceeding with the notes and letters, upwards and forwards, we ſhall find *C* (the 5th degree above *F*, that is, the middle C of the ſcale and tenor cliff degree) upon the 1ſt leger line above the ſtave.

Again, beginning at the 2d line of the upper ſtave, (which is the ſtation of the treble cliff character, and reprcſents g of the treble octave) and tracing downwards and backwards, we ſhall find the 5th degree below, or the ſame tenor C, repreſented upon the 1ſt leger line under the ſtave. Beginning afterwards at the ſame 2d line g, and proceeding upwards and forwards, we come to *g* in the high treble octave, immediately above the 5th line; and tracing on through the leger lines and ſpaces, we come to *ff*, the higheſt degree of our ſcale above the 3d leger

By this proceſs we ſhall find, that the four leger lines below the baſs ſtave, beginning at the loweſt, repreſent

repreſent reſpectively F F, A A, C C, E E, and that the ſpaces expreſs the intermediate degrees G G, B B, D D, and F; and that the lines of the baſs ſtave repreſent reſpectively G, B, D, *F*, and *A*, and the ſpaces, A, C, E, *G*, with *B* above the ſtave. It farther appears, that the ſeveral lines of the treble ſtave repreſent the degrees *E*, g, b, d, *f*; and that the ſpaces including the notes below and above repreſent *D*, f, a, c, e, *g*: the leger lines above that ſtave repreſent *a*, *c*, *e*, and the leger ſpaces *b*, *d*, *ff*.

14. The tenor C is repreſented upon the 1ſt leger line above the baſs ſtave, and alſo upon the 1ſt leger line below the treble ſtave. If now this line be ſuppoſed to be drawn out the whole length of the ſtave, and the ſtaves to be placed near to one another; we ſhall have a ſyſtem of eleven lines, upon which, with the aſſiſtance of leger lines below and above, all the degrees of the general ſcale are repreſented. This may be called the great or compleat ſtave of muſic. As the number of lines is too great for the eye to comprehend at one glance, it is broken down into parcels of five. The five loweſt lines ſeparated from the reſt, and diſtinguiſhed by having the baſs cliff character upon the 4th, compoſe the baſs ſtave; and

the

the five uppermoſt, with the treble cliff character upon the 2d, compoſe the treble ſtave. Theſe being the two extremes, various intermediate ſtaves, ſuited to the compaſs of different voices or of different inſtruments, are formed, by joining to the middle or tenor cliff line more or fewer of the lines above and below it, ſo as always to make up a ſtave of five lines,‡ to be diſtinguiſhed by placing the tenor cliff character upon its proper line.

Thus, when the ſtave is compoſed of the tenor cliff line and the four lines next above it, and when of courſe the tenor cliff character is upon the 1ſt line, the 2d, 3d, 4th, and 5th lines of that ſtave may be conſidered as the ſame with the 1ſt, 2d, 3d, and 4th lines of the treble ſtave, and with their ſeveral ſpaces as repreſenting the ſame degrees of the ſcale. And hence a note upon any line or ſpace of this ſtave will expreſs the ſame degree, with a note upon the line or ſpace of the treble ſtave, that is immediately

‡ The number Five was probably pitched upon, not only becauſe it is eaſily ſurveyed by the eye, but alſo as without leger lines, it comprehends an Octave and 4th, the uſual compaſs of the human voice.

under it: or, which amounts to the ſame thing, every line and ſpace of this ſtave, will repreſent the third degree below that, which is expreſſed upon the ſame line or ſpace of the treble ſtave. Thus the 2d line will be *E*, the third below g, the 2d line of the treble ſtave; the 4th ſpace will be c, the third below e, the 4th ſpace of the treble ſtave; and ſo of others. This is the Soprano Cliff.—Again, when the tenor cliff character is upon the 2d line, the 3d, 4th, and 5th lines will be the 1ſt, 2d, and 3d lines of the treble ſtave; and the 1ſt line, the 5th line of the baſs ſtave: and here each line and ſpace will expreſs the 5th degree below that which is repreſented by the ſame line and ſpace of the treble ſtave, and alſo the 9th degree above what is repreſented by the ſame line and ſpace of the baſs ſtave. This form of the ſtave is now ſeldom uſed.—3dly. When the tenor cliff is upon the middle or 3d line of the ſtave, the two above it are the 1ſt and 2d of the treble, and the two below it, the 5th and 4th of the baſs ſtave: and it will appear, that the degrees repreſented by the lines and ſpaces of this ſtave will be reſpectively 7ths below what are repreſented by the ſame lines and ſpaces of the treble, and 7ths above what are marked by the ſame lines and ſpaces of the baſs

ſtave,

ſtave. This is the Counter Tenor or Contralto Cliff.—Laſtly, when the tenor cliff is upon the 4th line, as that is the ſame line upon which the baſs cliff that repreſents the 5th degree below the tenor C, is placed; it is evident that every line and ſpace will expreſs the 5th degree above that which is expreſſed by the ſame line and ſpace of the baſs cliff.

15. Before concluding this ſubject, it is uſeful to to obſerve, that when the Treble and Baſs Cliffs are compared together, it will be found, that, by whatever letter the note upon any line or ſpace of the treble cliff is named, the note upon the line or ſpace immediately below that on the baſs cliff will be named by the ſame letter, but will be two octaves below the treble note. Thus, the note upon the 5th line of the treble cliff is *f*, the note upon the 4th line of the baſs cliff is *F* double octave below: alſo, that upon the 3d ſpace of the treble cliff is c, upon the 2d ſpace of the baſs cliff is C double octave below: and ſo of others. (See, in Plate I. No. 4, a delineation of the general Stave above deſcribed, with the ſeveral particular ſtaves which are formed or extracted from it, bounded by ſemicircular braces, bearing the reſpective cliff names.)

16. The

16. The notes repreſented upon the Stave in the various Cliffs above deſcribed, are properly the natural notes, or thoſe which are ſounded by the long keys of the inſtrument. When it is intended, that any one of theſe ſhould be taken ſharp, or that the ſhort key immediately above or to the right hand ſhould be uſed in place of it (5); intimation of this is given by writing the mark of Sharp (♯) before the character in the ſtave. On the other hand, when it is intended that the note ſhould be taken flat, or that the ſhort key to the left hand ſhould be employed in its ſtead; the mark of Flat (♭) is prefixed to the character in the ſtave.

A ♯ or ♭ written upon any line or ſpace at the beginning of a ſtave, regulates or affects all the notes which occur upon that line or ſpace, excepting ſuch as have the mark of Natural (♮) placed before them. This character is occaſionally employed, in the courſe of a piece of muſic, for the purpoſe of contradicting or taking off a ſharp or a flat, and reſtoring a note, which had been previouſly affected by either of them, to the ſtate in which it would have been, if it had not been ſo affected. The ♯ always elevates the note to which it is applied, a ſemitone; the ♭ always de-

preſſes

preſſes it a ſemitone; the ♮, as it equally contradicts either of theſe, muſt of courſe have both theſe effects; and either depreſs or elevate, according as the note to which it is applied was formerly affected by ♯ or ♭. When a ♯ or ♭ is occaſionally applied to a note, in the courſe of a piece of muſic, it is generally underſtood to regulate all the notes of that degree, which may occur in the ſame bar or meaſure of the muſic, but no farther. For the ſake of preciſion however, and to avoid ambiguity, muſicians often inſert theſe marks where, according to this rule, they are not neceſſary.

17. Muſic for the Pianoforte or Organ is written upon two ſtaves, connected by a bracket. What is written upon the upper ſtave, is generally the Air or principal part; and is played by the right hand: what is written upon the under ſtave, is, for the moſt part, an harmonical accompaniment; and is played, at the ſame time, by the left hand. The right hand part is commonly written in the treble; and the left hand part, in the baſs cliff. The older compoſers for theſe inſtruments were accuſtomed, when the notes of the right hand part were much below the compaſs of the treble cliff, or thoſe of the left

hand

hand part were much above the compaſs of the baſs cliff, to ſubſtitute for them, in thoſe paſſages, one or other of the Tenor cliffs above deſcribed. In this country that practice is now generally laid aſide; and no other cliffs are uſed in writing ſuch muſic, but the treble and baſs. Foreign muſicians however very frequently write the right hand part in the Soprano cliff; as they alſo write ſuch vocal muſic as is intended to be ſung by ſoprano or treble voices.

CHAP-

CHAPTER III.

OF TIME.

18. THE ſounds in muſic differ from one another, not only as they are more or leſs acute, or ſtand higher or lower in the muſical ſcale; they alſo differ as they are longer or ſhorter, or as they are continued for a greater or leſs portion of time. The notes of muſic therefore muſt not only mark the relative pitch of the ſeveral ſounds which they repreſent, or their place in the muſical ſcale; but alſo, their proportional time, or duration. Black dots, or ſmall open circles, written upon the different lines and ſpaces of the ſtave, may, with the aſſiſtance of the cliffs, expreſs with accuracy the pitch or tune of muſical ſounds, in the manner which has been above explained. To mark their proportional duration ſome farther additions and diſtinctions are neceſſary. As none but the more ſimple proportions of duration can be diſtinctly perceived, or accurately expreſſed

in muſical ſounds; the notes of time, which are employed in muſic, proceed from the longeſt to the ſhorteſt, by a regular ſucceſſion of degrees, each of which is, in duration, exactly the half of the one immediately preceding: their names, forms, and meanings, are to be ſeen in Plate II. No. 1.

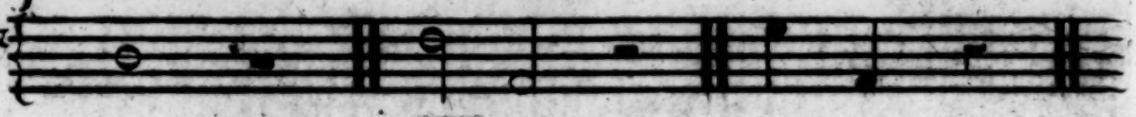
19. The *Semibreve*, which is a round note or circle, expreſſes the longeſt duration of time, among the modern characters; and may be eſteemed as a kind of ſtandard or meaſure, which regulates all the reſt.* The *Minim* is the ſame round note, with a ſtem added to it; and denotes half the time of a Semibreve. The *Crotchet* is a black head with a ſtem; and is half

* The Semibreve undoubtedly expreſſed at firſt a comparatively ſmall time. It was the half of a *Breve* or Short, a time character, which was ſo named to diſtinguiſh it from another character of double its value, which was called a *Long*. Theſe characters were of the ſquare and lozenge form. They are now very rarely to be ſeen, but in the older Church-muſic. It is probable, however, that the muſicians who invented theſe characters, allowed no more real time to the longeſt of them, than is now given to the Semibreve: ſo that the difference between the ancient and modern notation of time, is more in the form than in the value of the characters.

N.o 1

Names & Values / Notes & Rests

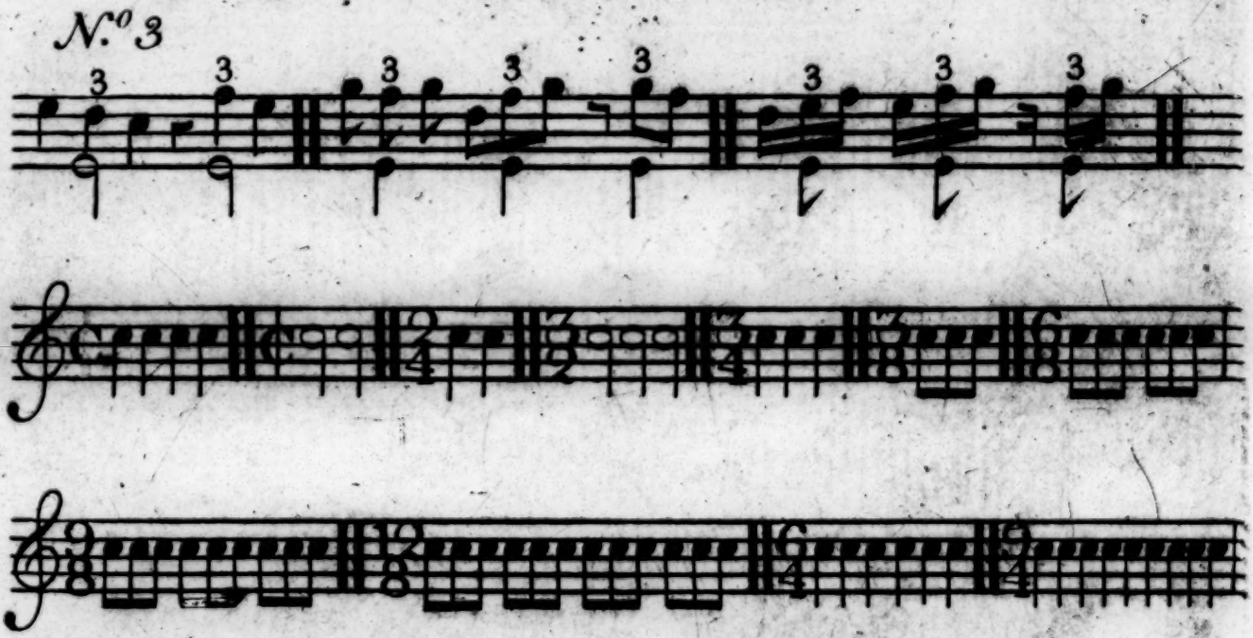
Semibreve 1 Minim $\frac{1}{2}$ Crotchet $\frac{1}{4}$



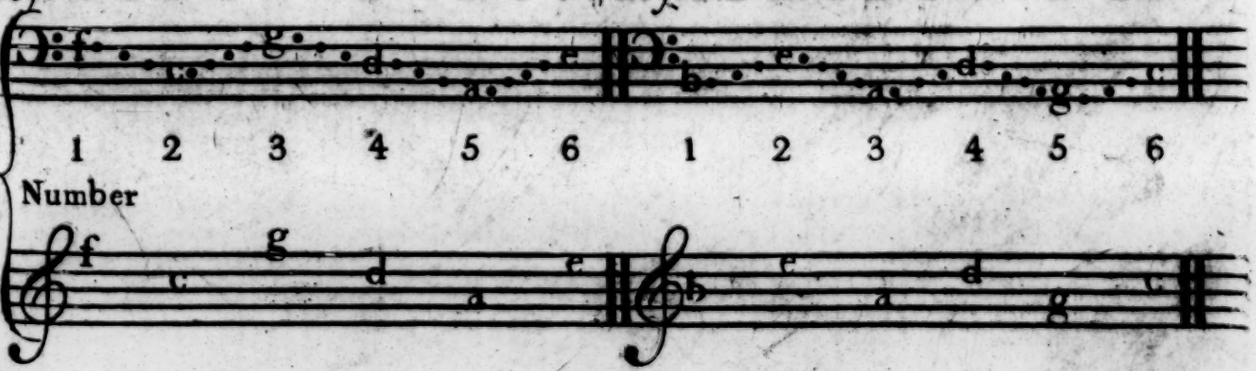
Names & Values / Notes & Rests

Quaver $\frac{1}{8}$ Semiquaver $\frac{1}{16}$ Demisemequaver $\frac{1}{32}$

N.o 2

N.o 3

N.o 4 Order of Sharps. Order of Flats.

keys G _ D _ A _ E _ B _ F♯ keys F _ B♭ _ E♭ _ A♭ _ D♭ _ G♭



1 2 3 4 5 6 1 2 3 4 5 6

Number

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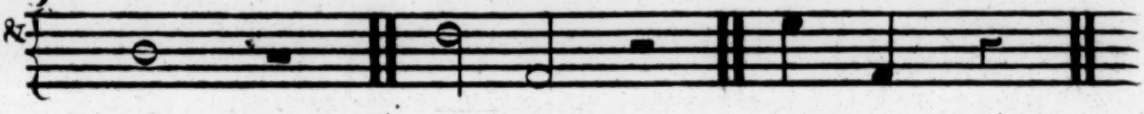
N.o 1

Names & Values — Semibreve 1 Minim $\frac{1}{2}$ Crotchet $\frac{1}{4}$

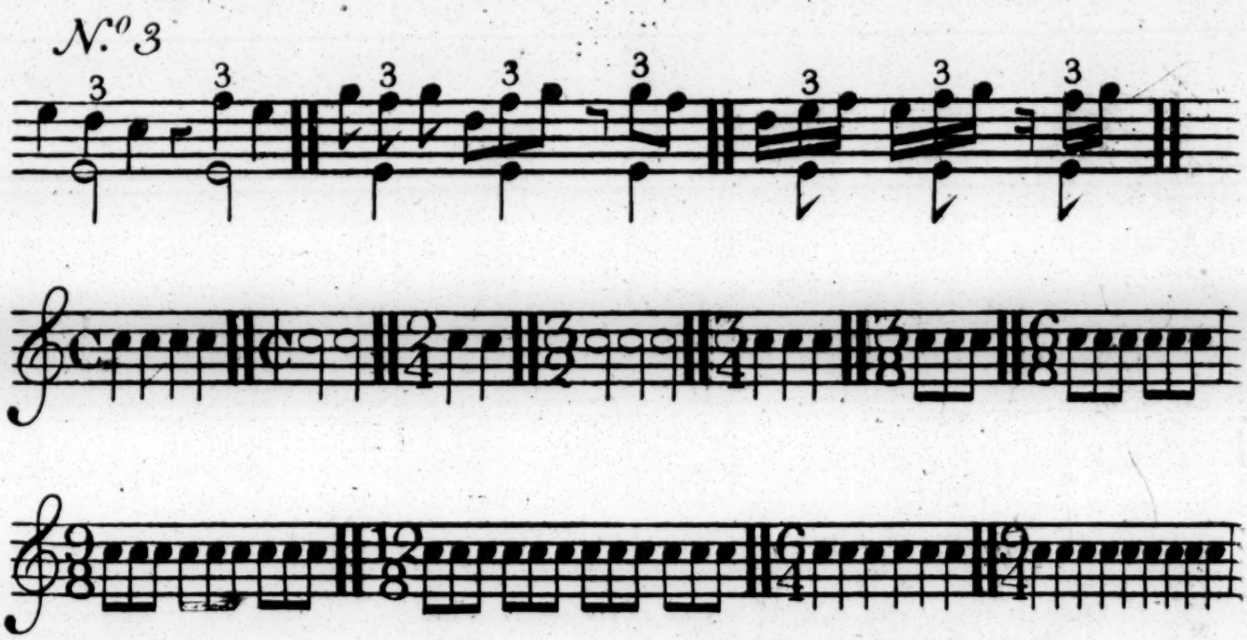
Notes & Rests



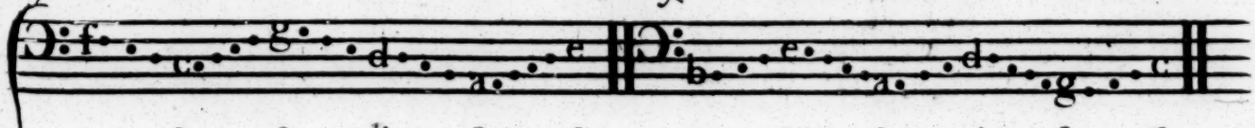
Names & Values — Quaver $\frac{1}{8}$ Semiquaver $\frac{1}{16}$ Demisemequaver $\frac{1}{32}$

Notes & Rests

N.o 2

N.o 3

N.o 4 Order of Sharps. Order of Flats.

keys G _ D _ A _ E _ B _ F♯ keys F _ B♭ _ E♭ _ A♭ _ D♭ _ G♭



1 2 3 4 5 6 1 2 3 4 5 6

Number

half a Minim, or a fourth part of a Semibreve. The *Quaver* is the ſame, with a ſtroke acroſs, or elſe the extremity of the ſtem turned back again in the form of a hook; and is half a Crotchet. The *Semiquaver* has two ſtrokes acroſs the ſtem, or elſe a kind of double hook; and is, as its name imports, the half of a Quaver. *Demiſemiquavers*, ſometimes called by contraction Demiquavers, are joined by three croſs ſtrokes, and are each the half of a Semiquaver. In the ſame manner, four ſtrokes will denote the half of a Demiſemiquaver, &c. Four Demiſemiquavers are equal to one Quaver; eight, to one Crotchet; ſixteen, to one Minim; and thirty-two, to one Semibreve.

20. After each of theſe notes in Plate II. is placed another character, which is called a *rest* or pauſe; and is uſed to denote a ſilence, or ceſſation of ſound, equal in length to the value of the note, which there precedes it, and from which it takes its name. Thus, the black ſquare character, which projects downwards from any line, is called a ſemibreve reſt; the ſame character projecting upwards from any line, is a minim reſt; the crotchet reſt is like a tenter hook, turned towards the right hand; the quaver reſt is

the ſame turned towards the left hand; the ſemiquaver reſt is a double hook, and the demiſemiquaver reſt a triple hook, turned towards the left hand.

21. A dot or point placed after any of theſe notes augments its value, and makes it juſt one half longer. Thus, a pointed ſemibreve is equal to a ſemibreve and a minim, or three minims; a pointed minim is equal to a minim and crotchet, or three crotchets; a pointed crotchet is equal to three quavers, and ſo on. See Plate II. No. 2. where the pointed notes are placed above, and the equivalent plain notes below.

22. The figure 3, placed over three equal notes of any kind, ſhews that theſe three notes are diminiſhed in value, ſo as to be all performed in the ſame time, which two of them would otherwiſe require. Thus, three crotchets figured over with a 3, are to be performed in the time of two crotchets, or one minim; three quavers, figured over with a 3, are equal to one crotchet; and ſo on. Such notes are ſometimes called triplets. See Plate II. No. 3. where the figured notes are placed above, and the equivalent

lent plain notes below.—By the plain notes, we can only expreſs the continued double proportions of two, four, eight, ſixteen, &c. By the dots and triplets, we are enabled to expreſs alſo the proportions of three to one, three to two, and three to four.

23. The characters above deſcribed are not to be underſtood, as expreſſing any determined invariable portions of abſolute time, ſuch as a ſecond, &c. but merely as marking the proportions, in point of duration, which the different notes of the ſame piece of muſic bear to one another. The abſolute time or duration of the ſame notes is, in ſome pieces of muſic, longer, and in others ſhorter; according as the ſtyle and movement is ſlow and ſolemn, or quicker and more lively. But whatever portion of real time is aſſigned in a piece of muſic to any one of them, for inſtance, to the crotchet; the minim, wherever it occurs, muſt be exactly double that time, and the ſemibreve, quadruple; alſo the quaver muſt be exactly the half of that time, the ſemiquaver one fourth, and ſo on.

24. In order that the proportional duration of muſical ſounds may be eaſily perceived, and that the air

or compoſition may poſſeſs that regularity, in its form and ſtructure, without which it cannot be pleaſing; it is neceſſary, that the ſucceſſive ſounds ſhould be arranged or diſtinguiſhed into equal-timed parcels or *meaſures*. Theſe meaſures will comprehend ſometimes more, and ſometimes fewer different ſounds, according as the ſounds are ſhorter or longer; but the length of all the notes, taken together, ought to be the ſame, in every meaſure throughout the piece; and when the muſic is juſtly executed, every meaſure will be expreſſed in the ſame portion of abſolute time.—In written muſic, the ſucceſſive meaſures are ſeparated by faint upright lines, drawn acroſs the ſtave. Theſe lines are called *bars*, and the ſame word is uſed to expreſs the notes comprehended between two lines, that is, the meaſure of the muſic: ſo that a meaſure and a bar are often ſynonymous terms.

25. When every meaſure contains two minims, four crotchets, eight quavers, or any other aſſemblage of notes equal or unequal, of pointed notes, of triplets, or of reſts, which, taken together, fill up the entire time of a ſemibreve; the muſic is ſaid to be in *common* time. When every meaſure contains two crotchets,

crotchets, four quavers, &c. or any other aſſemblage of notes, which, taken together, fill up the exact time of a minim; the muſic is alſo ſaid to be in common time. Again, when every meaſure contains three minims, three crotchets or three quavers, or any other combination of notes or reſts, which, taken together, are reſpectively equal to theſe; the muſic is ſaid to be in *triple* time. In common time, every meaſure or bar naturally divides into two, four, eight, ſixteen, &c. equal parts: in triple time, every meaſure naturally divides into three, ſix, twelve, &c. equal parts.

26. The firſt kind of common time above deſcribed (when every meaſure compleats the time of a ſemibreve) is marked by a large C, written at the beginning of the piece. When a perpendicular line is drawn through the C, it denotes that the muſic is to be played quicker; or, that the different notes of which the meaſures are compoſed, are reſpectively to be expreſſed in a ſhorter time than is uſually allotted to them. Other meaſures are marked by fractional numbers, written at the beginning of the piece. Of theſe, the lower figure or denominator, expreſſes ſome proportional

portional part of the ſemibreve,* and the upper figure or numerator ſhews the number of theſe parts, comprehended in the meaſure. Thus, $\frac{2}{4}$ at the beginning of a piece of muſic, ſhews, that the meaſure contains two fourth parts of the ſemibreve, that is, two crotchets; or, that the muſic is in the ſecond ſpecies of common time, above deſcribed.

Again, $\frac{3}{2}$ expreſſes three halves of the ſemibreve, or three minims in the meaſure—Slow triple time.

$\frac{3}{4}$ denotes three fourth parts of the ſemibreve, or three crotchets in the bar—Moderate triple time—from its being the uſual meaſure of the minuet, called alſo Minuet time.

$\frac{3}{8}$ marks three eights, or three quavers in the bar—Quick triple or quick minuet time.

27. The above are the ſimple meaſures, by which the time of muſic is regulated. There are ſome other meaſures which have been called compound; and which may be conceived as aggregates of two, three, or four, of the ſimple triple meaſures, above deſcribed,

* See Plate II. No. 1.

ſcribed, comprehended in one bar, or principal meaſure of the muſic.

Thus $\frac{6}{8}$, ſix eights or ſix quavers, a meaſure made up of two meaſures of $\frac{3}{8}$ —the common Jigg meaſure.

$\frac{9}{8}$, nine quavers, a bar compoſed of three meaſures of $\frac{3}{8}$ —The triple time Jigg meaſure.

$\frac{12}{8}$, a bar of four $\frac{3}{8}$ meaſures, or of two $\frac{6}{8}$ meaſures —The double Jigg meaſure.

$\frac{6}{4}$ and $\frac{9}{4}$ may be conceived in the ſame manner, as meaſures of ſix and of nine crotchets. Theſe, however, ſeldom appear in the works of modern compoſers.

CHAP.

CHAPTER IV.

OF INTERVALS.

28. An Interval in muſic is the diſtance or the difference in acuteneſs or gravity, betwixt two muſical ſounds. The extent or magnitude of intervals is eſtimated, by the number and quality of the degrees of the muſical ſcale, of which they are compoſed. In numbering the degrees, both extremes are reckoned. The lower note or term of the interval is called the 1ſt; the next degree of the ſcale above it is called the 2d, and ſo on: and the number or denomination of the interval is the ordinal number, which is pronounced, upon arriving at the upper term. Thus, to reckon the interval *C* g, we ſay *C* 1ſt, *D* 2d, *E* 3d, f 4th, g 5th, and we call the interval a fifth. In like manner to reckon the interval *D* c, we ſay *D* 1ſt, *E* 2d, f 3d, g 4th, a 5th, b 6th, c 7th; and we call the interval a ſeventh; and ſo of others. Intervals are ſometimes reckoned, in the ſame manner, from the upper

upper term downwards; as from *C* to *F*, a 5th. Of this, however, intimation is generally made, by inſerting the word *below*, or ſome other of like import. When no ſuch intimation is given, the interval is always underſtood to be reckoned from the *lower* term *upwards*.

29. From the method of reckoning muſical intervals above ſtated, it follows, that when two notes are named by the ſame letter, and are in the ſame octave of the great ſcale (7); the one may be ſaid to be *prime* to the other, C c.—When the letters, by which they are named, are immediately contiguous in the muſical alphabet, the interval is a 2d, *C D*, g a.—When one letter is interpoſed betwixt them, the interval is a 3d, *C E*, g b.—When two letters, a 4th *C* f, g c.—When three, a 5th *C* g, g d.—When four, a 6th, *C* a, g e.—When five, a 7th, *C* b, *D* c.—When ſix, an 8th or octave, *C* c.—When ſeven, a 9th, *C* d. In the ſame manner, we may proceed to the 10th, &c. It is more uſual, however, in denominating ſuch large intervals, to ſuppoſe an octave taken away, and to account what remains as the interval. Thus, the 9th being compoſed of the 8ve and 2d, is frequently conſidered as a 2d; the 10th is

almoſt always accounted a 3d; the 11th, a 4th; the 12th, a 5th, &c.: and the ſame thing takes place when the interval exceeds two or more octaves.

30. Upon the Stave.—Two notes which ſtand upon the ſame line, or upon the ſame ſpace, are *primes*.—When, of two notes, the lower one being upon a line, the upper one is upon the ſpace immediately above; or the lower one being upon a ſpace, the upper one is upon the line immediately above; the interval is a 2d.—When the lower note being upon a line, the upper note is upon the next line above, or the lower note being upon a ſpace, the upper note is upon the next ſpace above; the interval is a 3d.—When the lower note being upon a line, the upper note is upon the ſecond ſpace above, or, being upon a ſpace, is upon the ſecond line above; the interval is a 4th.—In like manner, from a line or a ſpace, to the ſecond line or ſecond ſpace above, is a 5th; from a line to the third ſpace above, or from a ſpace to the third line above, is a 6th; from a line to the third line, or from a ſpace to the third ſpace above, is a 7th.; and from a line to the fourth ſpace, or from a ſpace to the fourth line above is an 8ve.—In the ſame manner, the diſtance upon the ſtave of the higher intervals

vals may be determined. It thus appears that all the intervals, which are denominated by the odd numbers, viz. 3d, 5th, 7th, 9th, &c. extend from line to line, or from ſpace to ſpace; and that all intervals which, are denominated by the even numbers, viz. 2d, 4th, 6th, 8th, &c. extend from line to ſpace, or from ſpace to line. By attending carefully to what is above explained, a perſon may ſoon be able to perceive, by a glance of the eye, the interval of any two notes on the ſtave: and this quick perception by the eye, joined to the habit of feeling the exact extent of the ſame intervals by the hand, upon the inſtrument; is the ſureſt foundation of readineſs and accuracy, in the practice of muſic.

31. Intervals occur in muſic, either in *ſucceſſion*, when the terms are ſounded the one after the other; or in *conſonance*, when the terms are ſounded together. The firſt produces *melody*, the ſecond produces *harmony*. Some intervals, in conſonance, give a compound ſound, which is ſmooth and gratifying to the ear: other intervals in conſonance give a compound ſound, which is harſh, and in ſome degree offenſive to the ear. The former are called concordant

intervals,

intervals, or concords; the latter are called diſcordant intervals, or diſcords.

32. All intervals, excepting the ſemitone, may be conſidered as reſolvable into, or compoſed of two ſmaller intervals, the upper term of the lower part being the ſame note with the lower term of the upper part, and therefore common to both. Thus the 8ve *C* c, is reſolved into or compoſed of the 5th *C* g, and the 4th g c, or into the 4th *C* f, and the 5th f c; or into the 3d *C E*, and the 6th *E* c,; or into the 2d *C D*, and the 7th *D* c. In like manner, the 5th *C* g, is compoſed of the 3d *C E*, and the 3d *E* g; and the 3d *C E*, is compoſed of the 2d *C D*, and the 2d *D E*. When intervals are thus conceived to be added together, the numeral denomination of the aggregate or ſum, muſt, on account of the common term, be leſs by one, than the ſum of the numeral denominations of the intervals added, conſidered as cardinal numbers. Thus, the 5th is compoſed of two 3ds; and 5 is leſs by one, than the ſum of 3 and 3. So the 8ve is compoſed of the 5th and 4th, and 8 is one leſs, than the ſum of 5 and 4; and ſo of others. In the ſame manner, a larger interval may be conceived to be compoſed of three or more ſmaller intervals: in other words

words, three or more ſmaller intervals, that are contiguous or have common terms, when added together, make up a greater interval. Thus, the 8ve *C* c, is compoſed of the two 3ds *C E*, and E g, and the 4th g c; or the two 3ds *C E*, E g, and the 4th g c, added together make up the 8ve *C* c. As in this caſe there are two common terms, the numeral denomination of the aggregate interval muſt be leſs by two, than the ſum of the numeral denominations of the component parts: in the above inſtance, 8 is leſs by two than 10, the ſum of 3 and 3 and 4. The ſame principle may be extended to any other number of contiguous ſmaller intervals, compoſing a greater interval.

33. When an interval added to another interval, in the manner above deſcribed, makes up the exact 8ve, the one is ſaid to be the complement of the other, or the interval, which muſt be added, to *fill up* or *compleat*, the 8ve. Thus the 4th g c, is the complement of the 5th *C* g, and vice verſa the 5th *C* g, is the complement of the 4th g c. In the ſame manner, the 3d *C E*, and the 6th *E* c; the 2d *C D*, and the 7th *D* c; the 6th C a, and the third a c; the 7th C b, and the 2d b c, are all mutual complements of one another. [Plate III.] The numeral denominations

tions of all complement intervals, when added together, make up the number 9; and therefore when the numeral denomination of any interval is ſubtracted from 9, the remainder will give the numeral denomination of the complement. When we obtain the complement of an interval, by transferring the lower term of it to the octave above, or the upper term to the octave below; that interval is ſaid to be *inverted*, and the complement is then called the *inverſion* of the interval. Hence complements and inverſions are frequently uſed as ſynonimous terms.

34. As the muſical ſcale conſiſts of tones and ſemitones, intervals of the ſame numeral denomination will be of different extent, according to the quality or extent of the degrees or ſmaller intervals, of which they are compoſed The 2ds, *C D*, *D E*, f g, g a, a b, b c𝄪, b𝄫 c, &c. which are all tones (6), are evidently greater than the 2ds *E* f, b c, f𝄪 g, *D E*♭, &c. which are all ſemitones. The former claſs, therefore, are called *greater* or *major* ſeconds; and the latter are called *leſſer* or *minor* ſeconds. It follows that the 7ths, which are the complements of minor 2ds, muſt exceed by a ſemitone the 7ths, which are the complements of major 2ds. Thus the 7ths *C* b,

D c ♯, Eb d, &c. which are the reſpective complements of the minor 2ds, b c, c♯ d, d eb, are greater by a ſemitone than the 7ths, *D* c, *E* d, C♯ b, f e♭, &c. which are the reſpective complements of the major 2ds c d, d e, b c♯, e♭ f, &c. The former are accordingly called major 7ths, and have, among their degrees, five tones and one ſemitone; and the latter are called minor 7ths: and their degrees are four tones and two ſemitones. Again, the 3ds *C E*, f a, g b, *D* f♯, *E*♭ g, &c. which are all compoſed of two tones or major 2ds, are greater by ſemitone than the 3ds *D* f, *E* g, a c, b d, *C*♯ *E*, *C E*♭, &c. which are all compoſed of tone and ſemitone, or major and minor 2d. The former are called *greater* or *major* 3ds; and by ſome writers, with leſs preciſion, ſharp 3ds; the latter are called *leſſer* or *minor* 3ds, and by ſome writers, flat 3ds. It follows that the 6ths, which are the complements of minor 3ds, muſt exceed by ſemitone the 6ths, which are the complements of major 3ds. The former are accordingly named greater or major 6ths, and have four tones and one ſemitone, among their contiguous degrees; the latter are called leſſer or minor 6ths, and have among their degrees three tones and two ſemitones.

Thus,

Thus f d, g e, the reſpective complements of the minor 3ds, *D* f, E g, are major 6ths; and, by tracing the degrees of the ſcale, betwixt the lower and upper terms of theſe intervals, we ſhall find four tones and only one ſemitone. So alſo *C* a, *D* b, E c♯, Eb c, &c. are major 6ths. In like manner, *E* c, *A* f, *B* g, the complements of the major 3ds *C E*, f a, g b, are minor 6ths; and by tracing, upon the clavier, the degrees, from the lower to the upper terms of theſe intervals, we ſhall find three tones and two ſemitones. So alſo f ♯ d, g e♭, &c. are minor 6ths. It thus appears, that 2ds, 3ds, 6ths, and 7ths, have all the diſtinction of major and minor, and that all the major intervals exceed the correſponding minor intervals, by a ſemitone.

35. A 5th, which is compoſed (32) of a major and a minor 3d, as the 5th *C* g, compoſed of major 3d *C E*, and minor 3d *E* g; the fifth *D* a, compoſed of minor 3d, *D* f, and major 3d f a, is called a pure or perfect 5th, and is a pleaſing concord. The complement to a perfect 5th, as g c, a d, is called a pure or perfect 4th, and is alſo a concord, although its effect upon the ear is not ſo gratifying and ſatisfacto-

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ry, as that of the perfect 5th.* It is compoſed of a greater 3d, and minor 2d, or of a minor 3d and major 2d, or of two major 2ds and one minor 2d. A perfect 5th, with its intermediate 3d, ſounded in conſonance, is called a perfect muſical triad; when to theſe the 8ve above is added, we have what is called the perfect chord or harmony of the lower note. When the lower 3d is major, the triad or chord is ſaid to be major, to give major harmony, or the harmony of the major mode; as the triad *C E* g, or chord *C E* g c. When again the lower 3d is minor, the triad or chord is ſaid to be minor, to give minor harmony, or the harmony of the minor mode; as the triad *A C E*, or chord *A C E* a. If we examine the 5ths, to the ſeveral notes of the diatonic ſcale, (6, at the end) proceeding regularly upwards from

* Some muſical Theoriſts do not allow the perfect 4th to be a concord; becauſe, in the compoſition of muſic, it ſometimes *calls* to be reſolved, which they conſider as the characteriſtic of a diſcord. The ſame thing, however, may be occaſionally affirmed of the perfect 8ve, and perfect 5th. The perfect 4th, conſidered in itſelf, and independent of the particular ſituation in which it may occaſionally be found in a muſical compoſition, is undoubtedly a concord.

any note to its 8ve, as from *C* to c, we ſhall find that the 5ths *C* g, *D* a, *E* b, f c, g d, and a e, are all compoſed of major and minor 3ds, and therefore perfect: and further, that when the intermediate 3ds to each are added, three of the triads, viz. *C E* g, f a c, and g b d, are major; and the other three triads, viz. *D* f a, *E* g b, and a c e, are minor: but we find that the 5th *B* f, is compoſed of two minor 3ds, *B* d, and d f; and therefore deficient of a perfect 5th, by ſemitone. Such 5ths are called falſe, impure, imperfect, and ſometimes diminiſhed 5ths; the complement or inverſion of the falſe 5th *B* f, is the 4th f b. This 4th is compoſed of the three major 2ds or tones f g, g a, a b; and therefore exceeds the perfect 4th, by ſemitone. It is hence commonly called the *tritone*; as the major 3d is ſometimes alſo called the ditone. It is alſo called the ſuperfluous, the augmented, and ſometimes the ſharp 4th. Although the falſe 5th and the tritone are diſcording intervals, they are of great importance, and of very frequent occurrence in muſic.

36. As the ſemitone is the ſmalleſt interval in muſic, and as all ſemitones, although not ſtrictly equal, are accounted as equal in the practice of muſic, they may

may be conſidered as the units or ſimple elements, of which all muſical intervals are compoſed. We have thus an eaſy and ſimple means of expreſſing in numbers the extent or dimenſion of every interval; and of comparing intervals, by obſerving the number of ſemitones, of which they are compoſed, or which muſt be gone over, in paſſing from the lower to the upper term. In this way, the dimenſion of the perfect 8ve will be found to be 12 ſemitones; and of courſe, the number of ſemitones, in any interval, added to the number of ſemitones, in its complement, muſt always be 12. Thus the perfect 5th has ſeven ſemitones; and the perfect 4th has five ſemitones; major 3d four ſemitones; and the minor 6th eight ſemitones; and ſo of others.

37. The 8ve is the moſt pleaſing and moſt perfect concording interval in muſic. Its effect upon the ear very nearly reſembles the effect of perfect uniſon, which may be conſidered as its complement. The 5th is next to the 8ve, in perfection and agreeable effect. Next to the 5th, is the perfect 4th, and next to that the major 3d. The minor 3d, and the major and minor 6ths, are alſo concordant intervals. The 8th, 5th, and 4th, are called perfect concords. The

3ds

3ds and 6ths are called imperfect concords. All the other intervals which occur in muſic, are diſcords.

38. We ſhall now exhibit, in one view, in the form of a table, all the intervals which have been hitherto deſcribed. This table requires little explanation. The third column, entitled Compoſition, ſhews the ſmaller intervals, into which the larger ones may be reſolved. The 4th and 5th columns, entitled Tones and Semitones, expreſs the number of tones and ſemitones in the diatonic ſcale; and, the laſt column, expreſſes the number of ſemitones in the chromatic ſcale, of which the ſeveral intervals conſiſt.

Names.	Examples.	Composition.	Tones.	Semitones.	Semitones.
Uniſon.	*C C*	No Interval - - -			0
Minor 2d.	b c	Semitone of the Scale, - -		1	1
Major 2d.	g a	Tone of the Scale, - -	1		2
Minor 3d.	a c	Major and Minor 2d. - -	1	1	3
Major 3d.	g b	Two Major 2ds. - -	2		4
Perfect 4th.	g c	Two Major and one Minor 2d, or Minor 3d and Major 2d.	2	1	5
Tritone.	f b	Three Major 2ds. -	3		6
Falſe 5th.	*B f*	Two Minor 3ds. - -	2	2	6
Perfect 5th.	g d	Major 3d and Minor 3d, or Perfect 4th and Major 2d.	3	1	7
Minor 6th.	*E c*	Perfect 4th, and Minor 3d. -	3	2	8
Major 6th.	g e	Perfect 4th, and Major 3d.	4	1	9
Minor 7th.	g f	Perfect 5th and Minor 3d, or Falſe 5th and Major 3d.	4	2	10
Major 7th.	*C b*	Perfect 5th and Major 3d, or Perfect 4th and Tritone,	5	1	11
Perfect 8ve.	C c	Perfect 5th, and Perfect 4th, or &c.	5	2	12

The firſt and laſt, the ſecond and laſt but one, &c. are reſpective complements. The complements of all perfect intervals are perfect; thoſe of the minor intervals are major, and vice verſa. [Plate III.]

39. The above are all the intervals within the compaſs of 8ve, which are furniſhed by the natural or diatonic ſcale. The peculiarities of the minor mode, (to be afterwards explained) and the refinements of modern muſic, have introduced ſome other intervals, which are furniſhed by the chromatic ſcale. By the help of this ſcale, any note may be ſharpened or raiſed a ſemitone, or it may be flattened or lowered a ſemitone, without changing its letter denomination, or its place in the ſtave. Hence an interval may be contracted or made a ſemitone leſs, either by ſharpening its lower term, or by flattening its upper term, while the other term remains. Thus, the perfect 4th g c, may be contracted into g♯ c, or g c♭. On the other hand, an interval may be enlarged in its dimenſion, or made a ſemitone greater, either by ſharpening its upper term, or by flattening its lower term. Thus, the perfect 5th g d, may be enlarged into g d♯, or into g♭ d. Perfect or minor intervals, which have been contracted in this manner, have been

been frequently called extreme flat intervals: they are now commonly named diminiſhed intervals. Again, perfect or major intervals, which have been extended in this manner, have been called extreme ſharp intervals: by the French, and by many of the Engliſh muſicians, they have been named ſuperfluous intervals; by others, they have, with more propriety, been called enlarged or augmented intervals.

40. When notes, which are primes, have the ſame affection of natural, ſharp, or flat, &c. ſuch notes are uniſon, and form no interval: they may be called *perfect* primes. When they are of different affections, that is, when the one being natural, the other is ſharp or flat; or, the one being ſharp or flat, the other is double ſharp or double flat *, as C C𝄪, B B𝄫, C♯ C𝄪♯, B♭ B𝄫♭; they may be called falſe or imperfect primes. Their diſtance has ſometimes been termed a dieſis. It has frequently been named, though with no great propriety, a minor ſemitone, to diſtinguiſh it from the minor 2d, or ſemitone of the ſcale, which has been named a major ſemitone. It may perhaps, with more propriety, be called a *chromatic*

* This will be afterwards explained.

matic ſemitone.† An interval is augmented or increaſed by chromatic ſemitone, by annexing to the upper term the character of ſharp (♯) if it was formerly natural, or of double ſharp (x) if it was formerly ſharp; or, by annexing to the lower term the character of flat (b), if it was formerly natural, or of double flat (bb), if it was formerly flat. It is diminiſhed by chromatic ſemitone, by the ſame proceſs reverſed.

41. The augmented and diminiſhed intervals, commonly received into muſic, are the following: 1ſt, The extreme ſharp, ſuperfluous or augmented 2d—the major 2d, encreaſed by chromatic ſemitone, as

C

† As the terms major and minor, when applied to all the other intervals, expreſs the difference of a ſemitone; it would be more conſiſtent with preciſion, that in every caſe they ſhould be uſed, to expreſs that difference. Although it is certain, in theory, that C C♯ is a ſmaller interval than C♯ D; yet, in the compoſition and practice of muſic, for keyed inſtruments, all the ſemitones of the clavier are uſed, as if they were of equal extent; and C C♯, which is called a minor ſemitone, is ſounded by the very ſame finger keys with C Db, which is called a major ſemitone.

C D♯, C♯ Dx, Db E, Dbb Eb, Bb C♯. 2dly, Its complement, the extreme flat, or diminiſhed 7th, or the minor 7th, leſſened by chromatic ſemitone, as D♯ c, Dx c♯, E db, Eb dbb, C♯ bb; its component intervals are three minor thirds, or a falſe fifth and minor third; and, together with its complement, the augmented ſecond, it may be ſaid to divide the 8ve into four equal intervals of three ſemitones each.

3dly, The diminiſhed 3d, or the minor 3d, leſſened by chromatic ſemitone, as C♯ Eb, D♯ f, A♯ c. This interval ſeldom appears in conſonance. 4thly, Its complement, the ſuperfluous or augmented, ſometimes called the Italian 6th, or the major 6th, increaſed by chromatic ſemitone, as f d♯, C a♯, Eb c♯; it conſiſts of a major 3d and tritone, or perfect 5th, and augmented 2d.

5thly. The diminiſhed 4th, or perfect 4th, leſſened by chromatic ſemitone, as C♯ f, g♯ c, f♯ bb. 6thly. Its complement the ſuperfluous or augmented 5th, the perfect 5th increaſed by chromatic ſemitone, as C g♯, Bb, f♯; it conſiſts of two major thirds. 7thly. The diminiſhed 8ve complement of the chromatic ſemitone, or the perfect 8ve leſſened by chromatic ſemitone, as

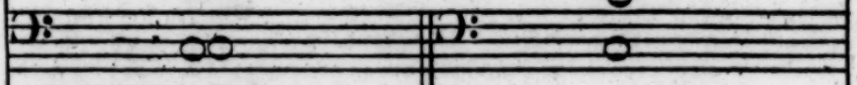
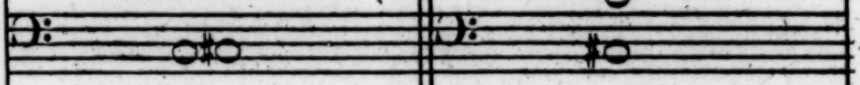
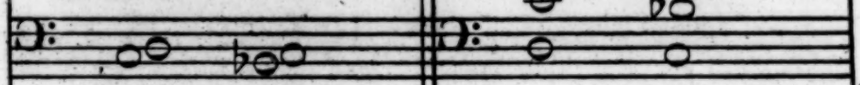
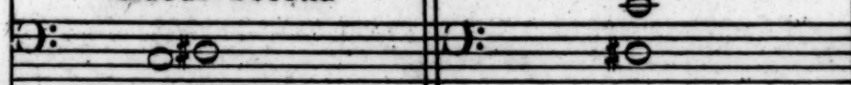
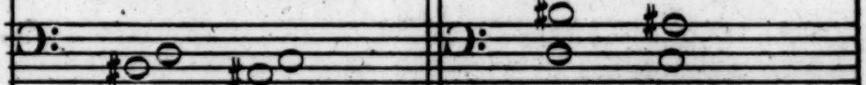
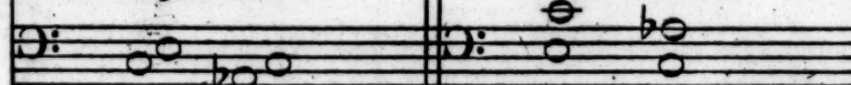
C♯ c, D d♭. 8thly. The ſuperfluous or augmented 8ve, or the perfect 8ve increaſed by chromatic ſemitone, as *C* c♯, B♭ b.

42. A general repreſentation of all the intervals, diatonic and chromatic, is given in muſical characters on ſtaves, [Plate III.] arranged in two columns in ſuch a manner that every interval and its complement is found in the ſame line, both in proceeding from the firſt to the ſecond column, and from the ſecond column conſidered as the interval, to the firſt, which in the ſame manner contains its complement.

43. From this ſcheme it appears that each of the chromatic intervals conſiſts of the ſame number of ſemitones, and conſequently is of the ſame extent upon the clavier, with ſome one of the diatonic intervals, but that the numeral denominations of theſe correſponding intervals are different. Thus, the diminiſhed 3d, and major 2d, conſiſt both of two ſemitones: The augmented 2d, and minor 3d, conſiſt of three ſemitones: and ſo of others. Theſe intervals of equal extent upon the inſtrument, have been ſometimes called ambiguous or convertible intervals; as the one may be converted into the other, by merely changing

To face P. 50.

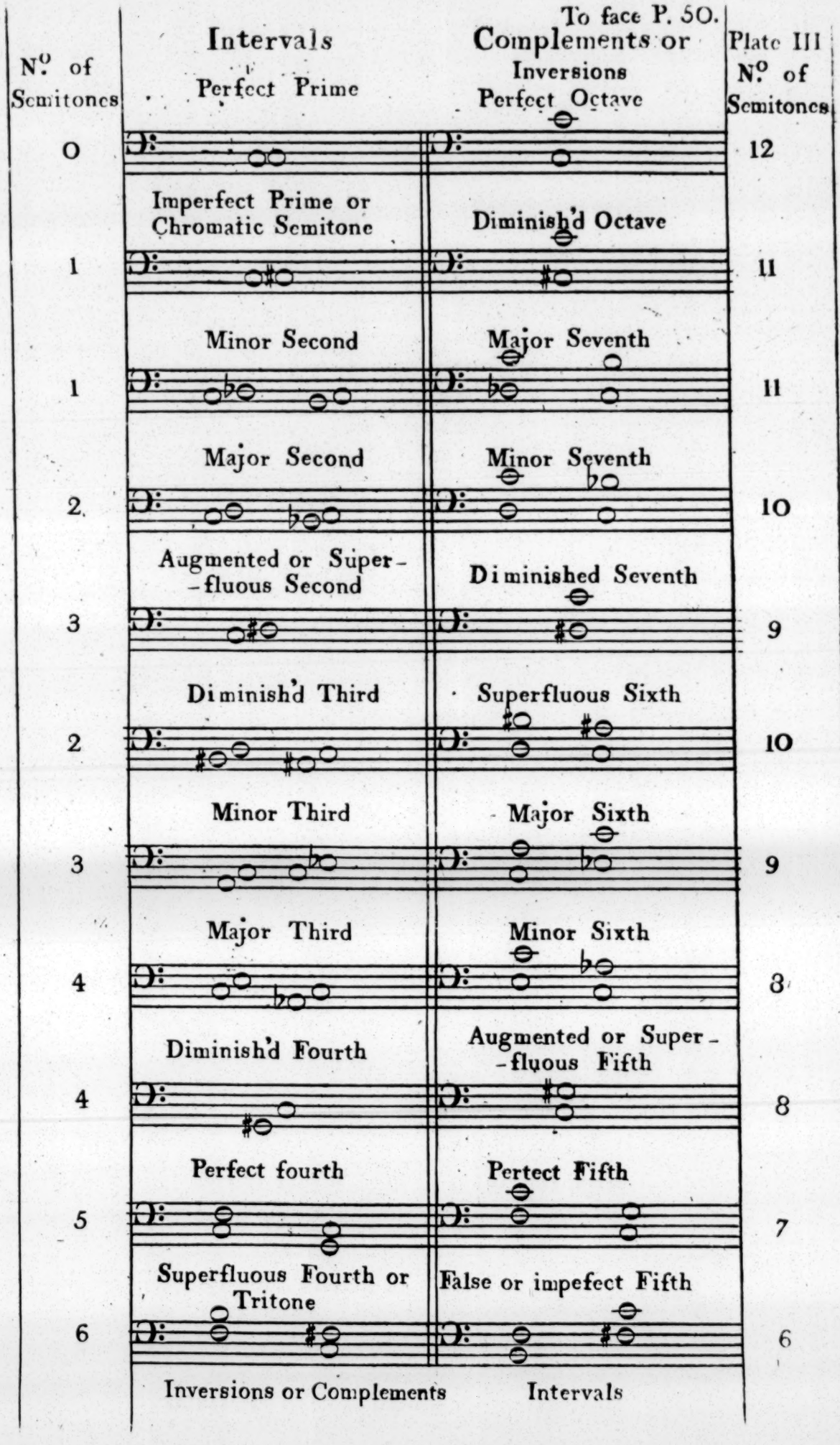
Plate III

N.o of Semitones	Intervals	Complements or Inversions	N.o of Semitones
	Perfect Prime	Perfect Octave	
0			12
	Imperfect Prime or Chromatic Semitone	Diminish'd Octave	
1			11
	Minor Second	Major Seventh	
1			11
	Major Second	Minor Seventh	
2			10
	Augmented or Super-fluous Second	Diminished Seventh	
3			9
	Diminish'd Third	Superfluous Sixth	
2			10
	Minor Third	Major Sixth	
3			9
	Major Third	Minor Sixth	
4			8
	Diminish'd Fourth	Augmented or Super-fluous Fifth	
4			8
	Perfect fourth	Pertect Fifth	
5			7
	Superfluous Fourth or Tritone	False or impefect Fifth	
6			6
	Inversions or Complements	Intervals	

C𝄪 c, D d♭. 8thly. The ſuperfluous or augmented 8ve, or the perfect 8ve increaſed by chromatic ſemitone, as *C* c𝄪, B♭ b.

42. A general repreſentation of all the intervals, diatonic and chromatic, is given in muſical characters on ſtaves, [Plate III.] arranged in two columns in ſuch a manner that every interval and its complement is found in the ſame line, both in proceeding from the firſt to the ſecond column, and from the ſecond column conſidered as the interval, to the firſt, which in the ſame manner contains its complement.

43. From this ſcheme it appears that each of the chromatic intervals conſiſts of the ſame number of ſemitones, and conſequently is of the ſame extent upon the clavier, with ſome one of the diatonic intervals, but that the numeral denominations of theſe correſponding intervals are different. Thus, the diminiſhed 3d, and major 2d, conſiſt both of two ſemitones: The augmented 2d, and minor 3d, conſiſt of three ſemitones: and ſo of others. Theſe intervals of equal extent upon the inſtrument, have been ſometimes called ambiguous or convertible intervals; as the one may be converted into the other, by merely changing


Intervals
Complements or Inversions
Plate III
N.o of Semitones
Perfect Prime
Perfect Octave
0
12
Imperfect Prime or Chromatic Semitone
Diminish'd Octave
1
11
Minor Second
Major Seventh
1
11
Major Second
Minor Seventh
2
10
Augmented or Super-fluous Second
Diminished Seventh
3
9
Diminish'd Third
Superfluous Sixth
2
10
Minor Third
Major Sixth
3
9
Major Third
Minor Sixth
4
3
Diminish'd Fourth
Augmented or Super-fluous Fifth
4
8
Perfect fourth
Pertect Fifth
5
7
Superfluous Fourth or Tritone
False or impefect Fifth
6
6
Inversions or Complements
Intervals

changng the denomination of one of the terms, from ſharp to flat, or from flat to ſharp. Thus, in the diminiſhed 7th, D𝄪 c, if the name of the lower term be changed from D𝄪, to E♭, which is the ſame finger key upon the clavier, that note is rendered a degree higher in the ſcale and upon the ſtave: the numeral denomination of the interval therefore becomes leſs by one, and in place of the diminiſhed 7th, we have the major 6th, E♭ c. If again retaining the lower term, D𝄪, we change the name of the upper term c, to b𝄪, which is the ſame key upon the clavier, we alſo obtain the major 6th, D𝄪 b𝄪. The diminiſhed 7th, D𝄪 c, and the major 6ths, E♭ c, and D𝄪 b𝄪, are all the ſame upon the inſtrument. In like manner, in the ſuperfluous 6th, f d𝄪, if the name of the upper term be changed to e♭, the numeral denomination of the interval becomes greater by one, and the ſuperfluous 6th is converted into the minor 7th f e♭. Theſe converſions have been called *enharmonic* changes. They frequently appear, and produce great effects in the modern muſic.

44. All the intervals above treated of, being within the compaſs of 8ve, have been called ſimple intervals. Such intervals as exceed the 8ve are generally conſidered

conſidered as compoſed (32) of 8ve and the ſimple intervals, and have therefore been called Compound intervals. Thus, 9ths are compoſed of 8ve and 2ds. —10ths, of 8ve and 3ds.—11ths, of 8ve and 4ths, &c. Thoſe compound intervals may have the ſame diſtinctions of major or minor, &c with the ſimple intervals of which they are compoſed. Octave and chromatic ſemitone, is ſuperfluous or augmented 8ve. Octave and minor 2d, is minor 9th. Octave and major 2d, is major 9th, and ſo of others.—Ninths are frequently conſidered in muſic as ſimple intervals.

CHAP.

CHAPTER V.

OF THE SCALE, AND SYSTEM OF MODULATION.

45. From the conſtitution of the great Scale of muſical ſounds, given out by touching the long keys of the clavier, it appears (3) that if we begin upon any one of them, and ſtrike the keys in regular ſucceſſion upwards, till we arrive at the eighth note, or 8ve above; two of the intervals between the contiguous notes, viz. E F, and B C, wherever they occur, will be minor 2ds, or ſemitones, and all the other intervals will be major 2ds, or tones. If again, we begin at our octave, as an outſet note, and proceed in the ſame direction to the next 8ve; the ſame letters will recur in order, the ſame arrangement of tones and ſemitones will be found, and the ſecond ſeries will be ſo like in ſound and effect to the firſt, that muſicians have conſidered and treated them, in ſome degree as the ſame. Such a ſucceſſion is called a *Scale of Octave.* The ſeveral degrees are numbered from the 1ſt, or outſet note.

The

The degree next to the 1ſt, is called the 2d of the ſcale; the next to that the 3d, and ſo on, in order, to the 8ve. Beyond that, the degrees might be called, 9th, 10th, &c. It is more uſual, however, to conſider this as an outſet note, and to expreſs the ſeveral degrees of the next ſcale of 8ve, by the ſame numbers by which the correſponding degrees of the firſt ſcale had been denominated. The 1ſt, or outſet note, is called the ſundamental of the ſcale.

46. There are two different forms or arrangements of the tones and ſemitones in a ſcale of octave, according to which all regular muſic is conſtructed, diſtinguiſhed by the titles of *Major* and *Minor* Scales, or *Modes*. The firſt, or fundamental note of the ſcale, according to which any piece of muſic is conſtructed, is called the key note of that piece.

1. *The Major Scale.*

47. In the Major Scale, which is the moſt natural and regular of the two, the interval of ſemitone muſt always ſubſiſt betwixt the 3d and 4th degrees, and between the 7th and 8ve. All the other contiguous degrees

degrees or notes, are at the interval of tone. It is called the Major Scale, or Mode, from its 3d note being a major 3d, or interval of two tones from the fundamental, and of courſe the *triad*, or *chord* of the fundamental giving *major* harmony. (35) This form of the ſcale of 8ve, or this particular arrangement of tones and ſemitones, can only be obtained upon the long keys of the clavier, by making C the firſt or fundamental note. The ſcale of C *major* will therefore appear to conſiſt of the intervals of five tones and two ſemitones, as in the following repreſentation of it, where the ſtars between the letters point out the interval of tone, or where the ſhort keys are placed. viz.

1 2 3 4 5 6 7 8
C * D * E F * G * A * B *C.*

48. This, and every other *Major Scale*, naturally divides into two Tetrachords, or ſyſtem of four notes in ſucceſſion, which are exactly ſimilar, in their intervals and arrangement, to each other; the two lower intervals of each being tones, and the upper a ſemitone. In the above ſcale, the 1ſt, or loweſt tetrachord, conſiſts of the notes - C * D * E F
and the 2d, or upper tetrachord, of G * A * B *C.*

The

The higheſt note of the firſt, and loweſt of the ſecond tetrachord, are ſeparated by the interval of tone, and the firſt of each, C G, and the other correſponding notes, D A, E B, F *C*, are at the intervals of perfect 5th.—As the ſcale, of which C is the fundamental, is played entirely upon the long keys, or what are called the *natural,* or unaltered notes of the inſtrument, it is called the natural ſcale or modulation.

49. All muſic cannot, however, be confined to the ſcale of C. In order to accommodate voices of different pitch and compaſs, as well as to obtain the variety and expreſſion, which are indiſpenſable in the more advanced ſtate of the muſical art; it is neceſſary that other notes be occaſionally made the fundamental or key note: and as within the compaſs of an octave upon the inſtrument, there are ſeven *long*, and five *ſhort* keys, every one of which may be made the fundamental of a major ſcale or key, the number of ſuch ſcales is exactly twelve.

If, for example, an air ſet in the key or ſcale of C, ſhould be found the ſmall interval of a ſemitone too low, or too high in pitch, for the compaſs of a given voice;

voice; the key note, or fundamental, muſt, in the firſt caſe, be raiſed a ſemitone to C♯, and of courſe the other ſix notes of the ſcale muſt be likewiſe raiſed a ſemitone, namely D♯, E♯, F♯, G♯, A♯, B♯. And in the ſecond place, the key note muſt be depreſſed a ſemitone, to C♭, together with the remaining ſix notes, viz. D♭, E♭, F♭, G♭, A♭ B♭. Such raiſing or depreſſing of a key or pitch is called *Tranſpoſition*. And in the above inſtances, the air would be ſaid to be tranſpoſed from the key of C, into the key of C♯, or of C♭.

50. Again, when variety, or the expreſſion of an air or piece of muſic, may require an occaſional alteration of any one interval of the ſcale, ſuch a departure from the key is called a *Modulation*, and another key may be ſaid to be introduced. Thus in the ſcale *C D E F—G A B* c, the fourth of the ſcale, or F, is frequently raiſed a ſemitone; and on other occaſions, the ſeventh of the ſcale, or B, is depreſſed a ſemitone,—the F♯, in the firſt inſtance, is characteriſtic of the key of G,—and the B♭, in the ſecond, indicates that the key of F, is, for the time introduced. Theſe two keys are the fifth and fourth to the original key, and their reſpective ſcales have the

neareſt affinity to it, and the leaſt poſſible departure from it.

51. There are, therefore, two orders of Succeſſion, that may be followed in a ſyſtem of modulation, the one by fifths, that is, when the 5th of every ſcale, is made the fundamental of the next ſcale; and the other by fourths, or when the fourth of every ſcale becomes the fundamental of the ſucceeding ſcale.

1. The Syſtem of Modulation by a ſucceſſion of Fifths conſiſts of the following ſcales or keys.

1.	of C	C	D	E	F	—	G	A	B	C	Natural.
2.	of G	G	A	B	C	—	D	E	F♯	G	1 ſharp.
3.	of D	D	E	F♯	G	—	A	B	C♯	D	2 ſharps.
4.	of A	A	B	C♯	D	—	E	F♯	G♯	A	3 ſharps.
5.	of E	E	F♯	G♯	A	—	B	C♯	D♯	E	4 ſharps.
6.	of B	B	C♯	D♯	E	—	F♯	G♯	A♯	B	5 ſharps.
7.	of F♯ *	F♯	G♯	A♯	B	—	C♯	D♯	E♯	F♯	6 ſharps.
8.	of C♯ *	C♯	D♯	E♯	F♯	—	G♯	A♯	B♯	C♯	7 ſharps.

Each of the notes having now been made ſharp, F♯

* * In the 7th and 8th ſcales, for E♯ and B♯, we muſt take upon the clavier the finger keys next above E and B natural, which are the long keys commonly called F and C.

F♯ of the laſt ſcale muſt be raiſed a ſemitone in the next, and an additional ſharp muſt conſequently fall upon it. In place therefore of the ſhort key F♯, upon the inſtrument, we muſt take, for this note, the key ſemitone above, or the long key uſually called G. As this note, however, is ſtill the ſubſtitute of F, it muſt retain its name, and being two ſemitones above F natural, will be called F double ſharp; and in the ſame manner, C double ſharp is the long key D; G double ſharp is the long key A; D double ſharp is the long key E; and A double ſharp is the long key B. A double ſharp is ſometimes written ♯♯, but now more uſually X; and in numbering the ſharps of a ſcale, it is accounted two.

The remaining keys may now be eaſily underſtood, as conſiſting of the following ſcales.

No.			
9.	of G♯	G♯ A♯ B♯ C♯——D♯ E♯ F x G♯	8 ſharps.
10.	of D♯	D♯ E♯ F x G♯——A♯ B♯ C x D♯	9 ſharps.
11.	of A♯	A♯ B♯ C x D♯——E♯ F x G x A♯	10 ſharps.
12.	of E♯	E♯ F x G x A♯——B♯ C x D x E♯	11 ſharps.

If we proceed one ſtep further, we ſhall have the following ſcale of B♯, conſiſting of B♯ C x D x E♯ —F x G x A x B♯, 12 ſharps; and the finger keys upon

upon the inſtrument for this ſcale, will be found to be the very ſame with thoſe of the ſcale of C natural, the firſt of the ſyſtem.

52. By inſpecting the above ſucceſſion of ſcales, it appears, 1. That the firſt tetrachord of every new ſcale conſiſts of the very ſame notes with the ſecond tetrachord of the preceding ſcale. 2. That all the ſharps or altered notes of the preceding ſcale, are retained in the new ſcale. 3. That an additional ſharp, or altered note, is always introduced into the new ſcale, upon the 7th of that ſcale, being the ſame note that was 4th in the preceding ſcale. 4. That the ſharps, or altered notes, enter the ſyſtem of modulation in the following order, in a ſucceſſion of 5ths. viz. F, C, G, D, A, E, B. And laſtly, that the double ſharps enter the ſyſtem on the ſame notes, and in the ſame order, with the ſingle ſharps.

53.

53. 2. The ſyſtem of modulation, by a ſucceſſion of 4ths, conſiſts of the following keys or ſcales.

1.	of C	C	D	E	F	—	G	A	B	C	Natural.
2.	of F	F	G	A	B♭	—	C	D	E	F	1 flat.
3.	of B♭	B♭	C	D	E♭	—	F	G	A	B♭	2 flats.
4.	of E♭	E♭	F	G	A♭	—	B♭	C	D	E♭	3 flats.
5.	of A♭	A♭	B♭	C	D♭	—	E♭	F	G	A♭	4 flats.
6.	of D♭	D♭	E♭	F	G♭	—	A♭	B♭	C	D♭	5 flats.
7.	of G♭ *	G♭	A♭	B♭	C♭	—	D♭	E♭	F	G♭	6 flats,
8.	of C♭ *	C♭	D♭	E♭	F♭	—	G♭	A♭	B♭	C♭	7 flats.

In the next ſcale of this ſucceſſion the additional flat, or altered note, takes place on B♭, the fourth of that ſcale, which therefore becomes double flat, or twice flattened, and muſt be ſounded on the inſtrument by the long key A natural; and in like manner, in the remaining ſcales, E♭♭, is the long key D; A♭♭, is the long key G; D♭♭, is the long key C; and G♭♭, is the long key F. The following ſcales of our preſent ſyſtem, will therefore conſiſt,

9.	of F♭	F♭	G♭	A♭	B♭♭	—	C♭	D♭	E♭	F♭	8 flats.
10.	of B♭♭	B♭♭	C♭	D♭	E♭♭	—	F♭	G♭	A♭	B♭♭	9 flats.
11.	of E♭♭	E♭♭	F♭	G♭	A♭♭	—	B♭♭	C♭	D♭	E♭♭	10 flats.
12.	of A♭♭	A♭♭	B♭♭	C♭	D♭♭	—	E♭♭	F♭	G♭	A♭♭	11 flats.

The

* * For C♭ and F♭, in the 7th and 8th ſcales, muſt be taken reſpectively the long finger keys, commonly called B and E natural.

The next ſcale in this order of ſucceſſion would be that of D𝄫, conſiſting of D𝄫, E𝄫, F♭, G𝄫—A𝄫, B𝄫, C♭, D𝄫, 12 flats; and the finger keys for this ſcale upon the inſtrument, will again be found to be the very ſame with thoſe of the natural ſcale, or ſcale of C.

54. By attending to the above ſucceſſion of ſcales, we find, 1ſt. That the ſecond tetrachord of every new ſcale, conſiſts of the ſame notes with the firſt tetrachord of the preceding ſcale. 2dly. That all the flats, or altered notes, of each ſcale, are retained in the following ſcale. 3dly. That an additional flat, or altered note, is always introduced in the new ſcale, upon the 4th of that ſcale, being the ſame note that was 7th of the preceding ſcale. 4thly. That theſe flats, or altered notes, enter the ſyſtem upon the following notes, in a ſucceſſion of 4ths, B, E, A, D, G, C, F, which is exactly the reverſe of the order of ſharps; and laſtly, That the double flats enter the ſyſtem upon the ſame notes, and in the ſame order with the ſingle flats.

55. The ſharps or flats, belonging to any particular ſcale, being written at the beginning of the *Muſical*

cal Stave, upon their proper lines and ſpaces, give what is called the *Signature* of the key or ſcale, according to which the muſic is conſtructed, and enables the performer to diſcover the fundamental of that ſcale, or its place in the ſyſtem of modulation.

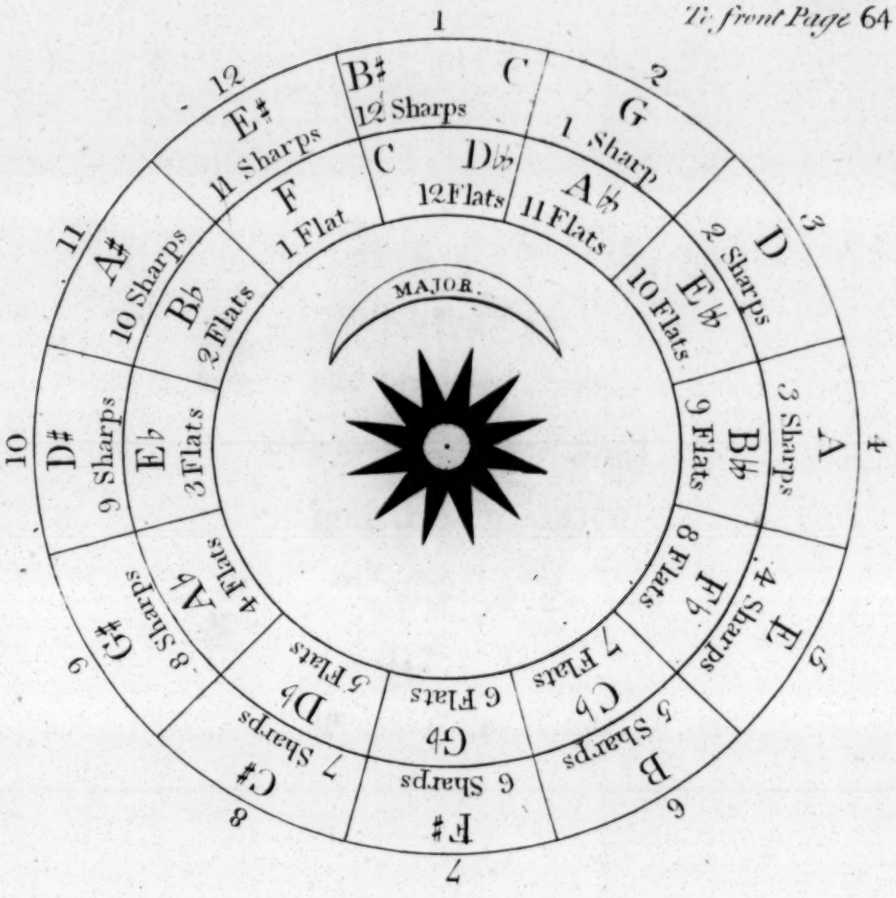
56. As, however, there are only 12 different finger keys on the inſtrument, which can be taken as fundamentals, it is evident that in the two ſucceſſions of twelve ſcales, above deſcribed, excluſive of the firſt, or natural ſcale, which is common to both, every ſcale in the one muſt have a correſponding ſcale in the other, whoſe fundamental, and of courſe every other degree, are the very ſame finger keys on the inſtrument. Thus the ſcale F♯, G♯, A♯ B, C♯, D♯, E♯, F♯, which is the 7th of the firſt ſucceſſion, is the very ſame ſeries of finger keys upon the inſtrument, with the ſcale, G♭, A♭, B♭, C♭, D♭, E♭, F, G♭, which is alſo the 7th of the ſecond ſucceſſion. Theſe are therefore correſponding keys: and in like manner, every ſcale of the inſtrument, excepting the natural ſcale of C, may be conſidered as having two different denominations and ſignatures; one of *ſharps*, taken from the ſucceſſion by 5ths, and the other of *flats*, taken from the ſucceſſion by 4ths.

57.

57. The fundamentals of theſe correſponding keys of different denominations and ſignatures, may be ſeen in the firſt circular ſyſtem inſcribed "Major," of Plate IV. in which it is evident, that ſetting out from the natural ſcale, at the higheſt point of the circle, and proceeding along the upper ſeries of keys, towards the right hand, till we come again to the ſame point, we have the fundamentals of the keys, in the ſucceſſion by 5ths. And by ſetting out from the ſame point, in the under ſeries of keys, and proceeding towards the left hand, round the circle, we have the fundamentals of the other ſucceſſion by 4ths; and each column will contain a correſponding key, under two denominations. It may be alſo obſerved, 1ſt. That the denomination of correſponding ſcales is always one letter further advanced in the muſical alphabet, in the ſucceſſion by flats, than it is in the ſucceſſion by ſharps. And 2dly, That the number of ſharps in the one, and of flats in the other, of all correſponding keys, when added together, make in every caſe, exactly the number 12.

2. *The Minor Scale.*

58. In the Minor Scale of Octave, as in the Major, two of the contiguous intervals are ſemitones; all the


1
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3
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6
7
8
9
10
11
12
MAJOR.
B♯ C
12 Sharps
G
1 Sharp
D
2 Sharps
A
3 Sharps
E
4 Sharps
B
5 Sharps
F♯
6 Sharps
C♯
7 Sharps
G♯
8 Sharps
D♯
9 Sharps
A♯
10 Sharps
E♯
11 Sharps
C D♭
12 Flats
A♭
11 Flats
E♭
10 Flats
B♭
9 Flats
F
8 Flats
C♭
7 Flats
G♭
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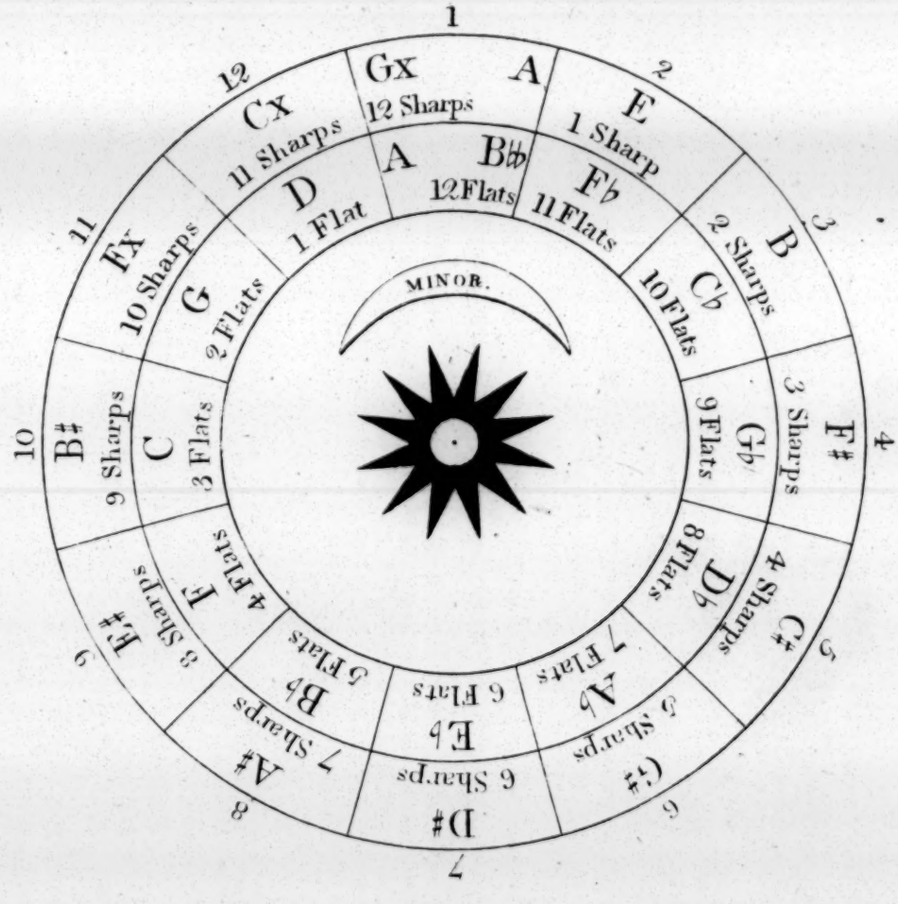
D♭
5 Flats
A♭
4 Flats
E♭
3 Flats
B♭
2 Flats
F
1 Flat


1
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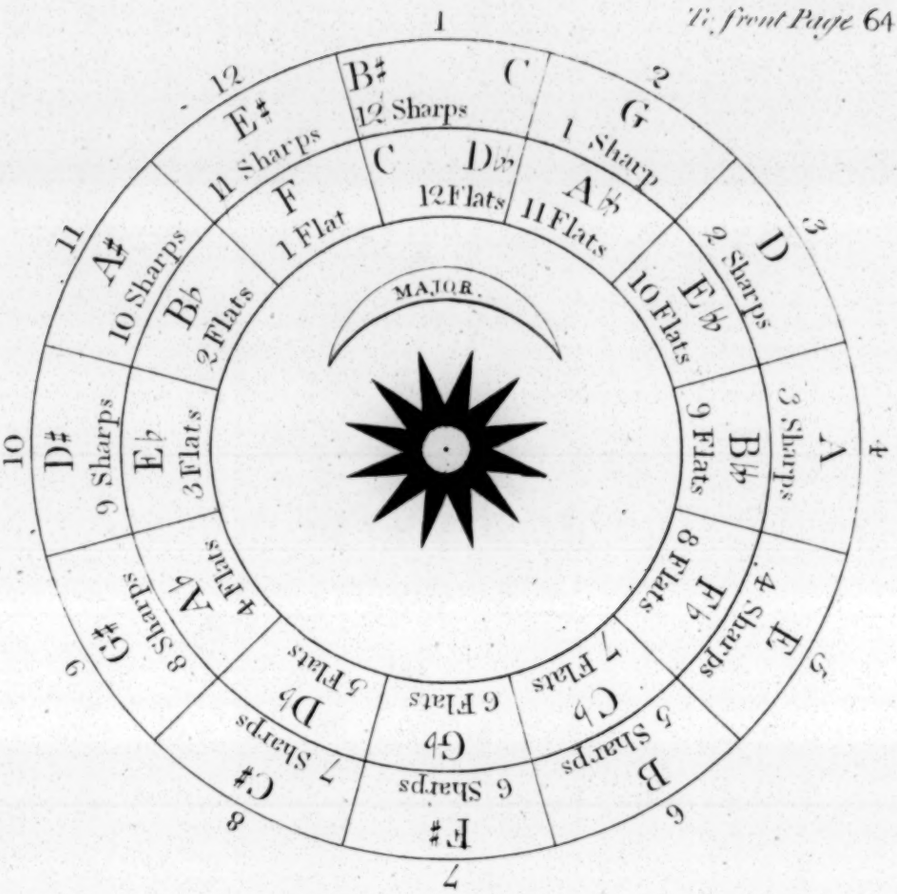
11
12
MINOR.
Gx A
12 Sharps
E
1 Sharp
B
2 Sharps
F♯
3 Sharps
C♯
4 Sharps
G♯
5 Sharps
D♯
6 Sharps
A♯
7 Sharps
E♯
8 Sharps
B♯
9 Sharps
Cx
10 Sharps
Fx
11 Sharps
A B♭♭
12 Flats
F♭
11 Flats
C♭
10 Flats
G♭
9 Flats
D♭
8 Flats
A♭
7 Flats
E♭
6 Flats
B♭
5 Flats
F
4 Flats
C
3 Flats
G
2 Flats
D
1 Flat

57. The fundamentals of theſe correſponding keys of different denominations and ſignatures, may be ſeen in the firſt circular ſyſtem inſcribed "Major," of Plate IV. in which it is evident, that ſetting out from the natural ſcale, at the higheſt point of the circle, and proceeding along the upper ſeries of keys, towards the right hand, till we come again to the ſame point, we have the fundamentals of the keys, in the ſucceſſion by 5ths. And by ſetting out from the ſame point, in the under ſeries of keys, and proceeding towards the left hand, round the circle, we have the fundamentals of the other ſucceſſion by 4ths; and each column will contain a correſponding key, under two denominations. It may be alſo obſerved, 1ſt. That the denomination of correſponding ſcales is always one letter further advanced in the muſical alphabet, in the ſucceſſion by flats, than it is in the ſucceſſion by ſharps. And 2dly, That the number of ſharps in the one, and of flats in the other, of all correſponding keys, when added together, make in every caſe, exactly the number 12.

2. *The Minor Scale.*

58. In the Minor Scale of Octave, as in the Major, two of the contiguous intervals are ſemitones; all the


MAJOR.
1
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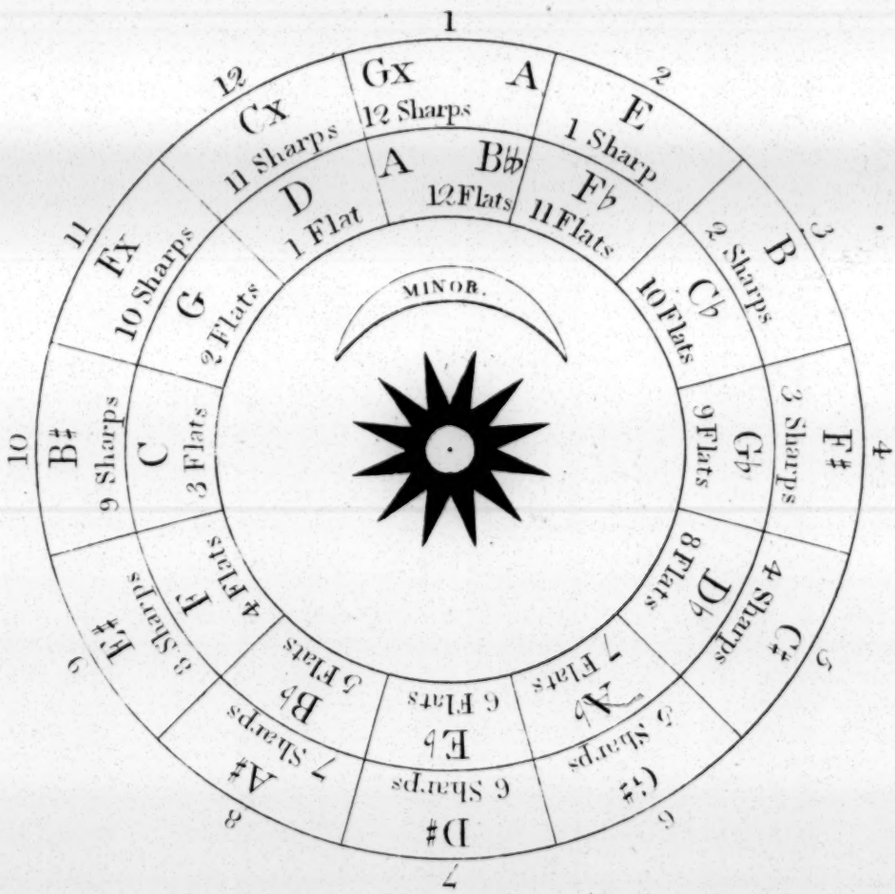
6
7
8
9
10
11
12
C
12 Sharps
B♯
C
12Flats
D♭♭
G
1 Sharp
A♭
11Flats
D
2 Sharps
E♭♭
10Flats
A
3 Sharps
B♭♭
9 Flats
E
4 Sharps
F♭
8 Flats
B
5 Sharps
C♭
7 Flats
F♯
6 Sharps
G♭
6 Flats
C♯
7 Sharps
D♭
5 Flats
G♯
8 Sharps
A♭
4 Flats
D♯
9 Sharps
E♭
3 Flats
A♯
10 Sharps
B♭
2 Flats
E♯
11 Sharps
F
1 Flat


MINOR.
1
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9
10
11
12
A
12 Sharps
Gx
A
12Flats
B♭♭
E
1 Sharp
F♭
11Flats
B
2 Sharps
C♭
10Flats
F♯
3 Sharps
G♭
9 Flats
D♭
8 Flats
A♭
7 Flats
E♭
6 Flats
B♭
5 Flats
F
4 Flats
C
3 Flats
G
2 Flats
D
1 Flat
Cx
11 Sharps
Fx
10 Sharps
B♯
9 Sharps
C♯
8 Sharps
D♯
6 Sharps
A♯
7 Sharps
E♯
3 Sharps

the reſt are tones: but the ſituation of the ſemitones in the two ſcales, or the degrees of it in which they take place, are different; for while in the major ſcale, the ſemitones take place in the intervals betwixt the 3d and 4th, and betwixt the 7th and 8th; in the minor ſcale, they regularly take place in the intervals betwixt the 2d and 3d, and betwixt the 5th and 6th. Of this arrangement of tones and ſemitones, we have an example in the ſeries of natural notes upon the inſtrument, A, B, C, D, E, F, G, A, as in the following repreſentation of it, where the ſtars point out the interval of tone, and their omiſſion that of ſemitone.

1 2 3 4 5 6 7 8
A * B C * D * E F * G * A

It is denominated the Minor Scale, or Mode, from the 3d being a minor 3d to the fundamental, and of courſe the triad or chord of the fundamental giving minor harmony. (35)

59. This regular form of the minor ſcale is often departed from. In aſcending that ſcale, it is found that the termination upon the 8ve is not ſatisfactory, unleſs that note is preceded by the major 7th, or un-

leſs the 7th, which regularly is a tone from the 8ve, be taken a ſemitone higher, and brought to a ſemitone from the 8ve. In the above example, the termination upon A, will not be ſatisfactory, unleſs in place of G, for the preceding note, we take G𝄪. But as the interval between the minor 6th, and this major 7th, (as in the example betwixt F♮ and G𝄪) becomes thus a ſuperfluous 2d; and as this interval was thought, by the older muſicians, inharmonious, and ſcarcely admiſſible into muſic; to avoid that, it became uſual to take the 6th alſo, of the aſcending minor ſcale, a ſemitone higher, or to take for that degree the *major* inſtead of the *minor* 6th, as in place of F, in the example, to take F𝄪. In this way it will have its two ſemitones betwixt the 2d and 3d, and betwixt the 7th and 8th, of the ſcale; and conſiſt of two diſſimilar tetrachords, as follows.

A * B C * D——E * F𝄪 * G𝄪A

And in this form it may be remarked, that the ſecond tetrachord conſiſts of the very ſame notes with the ſecond tetrachord of the major ſcale of the ſame fundamental, viz. the 4th ſcale of the ſucceſſion by 5ths. When the minor ſcale *deſcends* from the upper to the lower 8ve, the alterations of its 7th and 6th, are

are not neceſſary: it may then proceed in its regular form in the deſcending ſeries, as follows.

8 7 6 5 4 3 2 1
A * G * F E * D * C B * A †

60. Any one of the twelve finger keys of the inſtrument may be made the fundamental of a minor, as well as of a major ſcale; and the 12 minor ſcales may be regularly derived from one another, either according to the order of ſucceſſion by 5ths, or according to that by 4ths, although this is not done altogether

† The form of the Minor ſcale aſcending and deſcending, above deſcribed, is according to the rule of the older Muſicians. In the works of the later Compoſers, the ſuperfluous 2d frequently occurs, both in conſonance and ſucceſſion; and as the ears of Muſicians are thus familiarized with it, we may, in playing the minor ſcale, retain the proper 6th of that ſcale, viz. the the minor 6th, or ſemitone above the 5th, while at the ſame time we uſe the major 7th, or take for that degree the ſemitone below the 8ve; and we may play it in this manner *deſcending* as well as *aſcending*. The minor ſcale of A, when played in this manner, will conſiſt of the following notes, viz. A * B C * D * E F ** G𝄪 A. This form of the minor ſcale may, for the ſake of diſtinction, be called the Minor ſcale of the Moderns.

altogether with the ſame eaſe and ſimplicity, as in the caſe of the major ſcales; the two tetrachords, into which the minor ſcale divides itſelf, being never in any form in which it is played, ſimilar to each other, or conſiſting of the ſame arrangement of tones and ſemitones.

61. 1. The Minor ſcales or keys, in the ſucceſſion by 5ths, are the following.

No.											
1.	of A	A	B	C	D	—	E	F	G	A	Natural.
2.	of E	E	F𝄪	G	A	—	B	C	D	E	1 ſharp.
3.	of B	B	C𝄪	D	E	—	F𝄪	G	A	B	2 ſharps.
4.	of F𝄪	F𝄪	G𝄪	A	B	—	C𝄪	D	E	F𝄪	3 ſharps.
5.	of C𝄪	C𝄪	D𝄪	E	F𝄪	—	G𝄪	A	B	C𝄪	4 ſharps.
6.	of G𝄪	G𝄪	A𝄪	B	C𝄪	—	D𝄪	E	F	G𝄪	5 ſharps.
7.	of D𝄪	D𝄪	E𝄪	F𝄪	G𝄪	—	A𝄪	B	C𝄪	D𝄪	6 ſharps.
8.	of A𝄪	A𝄪	B𝄪	C𝄪	D𝄪	—	E𝄪	F𝄪	G𝄪	A𝄪	7 ſharps.
9.	of E𝄪	E𝄪	Fx	G𝄪	A𝄪	—	B𝄪	C𝄪	D𝄪	E𝄪	8 ſharps.
10.	of B𝄪	B𝄪	Cx	D𝄪	E𝄪	—	Fx	G𝄪	A𝄪	B𝄪	9 ſharps.
11.	of Fx	Fx	Gx	A𝄪	B𝄪	—	Cx	D𝄪	E𝄪	Fx	10 ſharps.
12.	of Cx	Cx	Dx	E𝄪	Fx	—	Gx	A𝄪	B𝄪	Cx	11 ſharps.

If we proceed one ſtep further, we ſhall have the following ſcale of G x, viz. G x A x B𝄪 C x—— D x E𝄪 F x G x, 12 ſharps, and the finger keys upon the inſtrument, for this ſcale, will be found to be

be the very ſame with thoſe of the ſcale of A natural, the firſt of the ſucceſſion.

By inſpecting the above ſucceſſion, it appears, 1ſt. That the additional ſharp, or altered note, takes place upon the 2d of every new ſcale. 2d. That the ſharps, ſingle and double, enter on the ſame notes, and in the ſame order, as in the Major ſcales, viz. F, C, G, D, A, E, B.

62. 2. The Minor ſcales, or keys, in the ſucceſſion by 4ths, are the following.

1.	of A	A	B	C	D	—	E	F	G	A	Natural
2.	of D	D	E	F	G	—	A	B♭	C	D	1 flat.
3.	of G	G	A	B♭	C	—	D	E♭	F	G	2 flats.
4.	of C	C	D	E♭	F	—	G	A♭	B♭	C	3 flats.
5.	of F	F	G	A♭	B♭	—	C	D♭	E♭	F	4 flats.
6.	of B♭	B♭	C	D♭	E♭	—	F	G♭	A♭	B♭	5 flats.
7.	of E♭	E♭	F	G♭	A♭	—	B♭	C♭	D♭	E♭	6 flats.
8	of A♭	A♭	B♭	C♭	D♭	—	E♭	F♭	G♭	A♭	7 flats.
9.	of D♭	D♭	E♭	F♭	G♭	—	A♭	B♭♭	C♭	D♭	8 flats.
10.	of G♭	G♭	A♭	B♭♭	C♭	—	D♭	E♭♭	F♭	G♭	9 flats.
11.	of C♭	C♭	D♭	E♭♭	F♭	—	G♭	A♭♭	B♭♭	C♭	10 flats.
12.	of F♭	F♭	G♭	A♭♭	B♭♭	—	C♭	D♭♭	E♭♭	F♭	11 flats.

And

And if we proceed one ſtep farther we ſhall have the following ſcale of B𝄫, conſiſting of B𝄫, C♭, D𝄫, E𝄫,—F♭, G𝄫, A𝄫, B𝄫,—12 flats; and the finger keys upon the inſtrument, for this ſcale, will be found to be the very ſame with thoſe of the ſcale of A natural, the firſt of the ſucceſſion.

By inſpecting the above ſucceſſion, it appears, 1ſt. That the additional flat, or altered note, takes place on the 6th of every new ſcale. 2dly. That the flats, ſingle and double, enter on the ſame notes, and in the ſame order, as they do in the major ſcales, viz. B, E, A, D, G, C, F.

63. In what manner the ſcales or keys of theſe two orders of ſucceſſion coincide and correſpond with each other, may be ſeen in the ſecond circular ſyſtem, inſcribed "Minor" of Plate IV. in which the upper ſeries of keys, or the ſucceſſion by 5ths, proceeds towards the right hand, and the under ſeries, or the ſucceſſion by 4ths, proceeds towards the left, and the obſervations made (55. and 56.) on the correſpondence of the major ſcales, and on the firſt circular

ſyſtem

ſyſtem, will equally apply to, and illuſtrate the minor ſcales and the ſecond circular ſyſtem.*

64. It is moreover uſeful to obſerve, that in the conſtruction of the minor ſcale, three of its degrees are a ſemitone lower than they are in the major ſcale, which has the ſame note for its fundamuntal; namely, the 3d, 6th, and 7th. This is effected by taking off a ſharp, or adding a flat for each interval that may require this depreſſion of a ſemitone: and hence the major ſcale of A, the 4th ſcale in the ſucceſſion by 5ths, has three ſharps, viz. on its 3d, 6th, and 7th, which diſappear in the minor ſcale of the ſame fundamental; and the minor ſcale of C, the 4th ſcale in the ſucceſſion by 4ths, has three flats, viz. on its 3d, 6th, and 7th, which diſappear in the major ſcale of the ſame fundamental. We have thus an eaſy rule

* In the ſchemes of the Major and Minor keys, which are exhibited in 51, 53, and 60, 61; the 2d ſcale of the one order of ſucceſſion, and the 12th of the other, are correſponding ſcales or keys, and played by the very ſame finger touches upon the clavier. So alſo the 3d of the one, and the 11th of the other; the 4th, and the 10th; the 5th, and the 9th; the 6th, and the 8th; the 7th, and the 7th; are correſponding keys.

rule for finding the ſignature of the minor ſcales, from thoſe of the major ſcales, viz. *Take three ſharps from, or add three flats to the ſignature of any major ſcale, and we have the ſignature of the minor ſcale of the ſame fundamental.* The ſharps, if any, that are left, and the flats that are added, muſt always be the firſt, or the next, in the order of ſharps and flats. When there are only two, or one ſharp in the ſignature, (as in the major keys of D and G) theſe are taken away, and one or two flats reſpectively are added.

65. Although the major and minor ſcales of the ſame fundamental are not, like the relatives, the ſame ſeries of notes: yet, as they have a common fundamental, and as the 4th, 5th, and 2d, and often alſo the 6th and 7th, are the ſame notes in both, it is by no means unuſual, eſpecially among the modern compoſers, to make the muſic, in the progreſs of a piece, to paſs from the one to the other. When this change takes place in any conſiderable part of the piece, or in a detached air, intimation of it is given, not only by changing the ſignature, but frequently alſo by annexing the Italian words "Maggiore," or "Minore."

66.

66. When the ſucceſſion of the twelve minor ſcales by 5ths and 4ths, is compared with the correſponding ſucceſſion of major ſcales by 5ths and 4ths, it will be found that they have the ſame ſignatures, reſpectively, or conſiſt of the ſame ſeries of notes, only beginning from different fundamentals; that is, the 1ſt, 2d, 3d, &c. minor ſcales, in the ſucceſſion by 5ths, have the ſame ſignature, and conſiſt of the ſame ſeries of notes with the 1ſt, 2d, 3d, &c. major ſcales, in the ſucceſſion by 5ths; and the ſame correſpondence takes place betwixt the 1ſt, 2d, 3d, &c. minor ſcales, and the 1ſt, 2d, 3d, &c. major ſcales, in the ſucceſſion by 4ths. Thus the minor ſcale, A B C D E F G, is the ſame ſeries of natural, or unaltered notes, with the major ſcale C D E F G A B; the minor ſcale of E, is the ſame ſeries with the major ſcale of G, both having F ſharpened: the minor ſcale of D, is the ſame ſeries with the major ſcale of F, both having B flattened: and ſo of the others. Hence muſic may be made to paſs eaſily and almoſt inſenſibly, from the one to the other. Theſe major and minor keys of the ſame ſignature, have been called *relative* major and minor keys, and the tranſitions of muſic from the one to the other, are called *relative* major and minor modulations. From

inſpecting them it appears, *that the 6th degree of every major ſcale, or the third below its fundamental, is the fundamental of its relative minor ſcale, and the third degree of every minor ſcale, is the fundamental of its relative major ſcale.*

67. Upon the outer part of the border of that face of the Game Tables on which the Claviers are repreſented, (as in the frontiſpiece) are inſcribed the fundamentals of the 12 major keys, according to the order of ſucceſſion by 5ths, with their relative minor keys below or within each, beginning near the lock, and proceeding to the right, in the following order.

Major keys	-	B♯	C	G	D	A	E	B
Minor keys	-	Gx	A	E	B	F♯	C♯	G♯

Major keys	- -	F♯	C♯	G♯	D♯	A♯	E♯	
Minor keys	-	D♯	A♯	E♯	B♯	Fx	Cx	

And round the border of the other face of the Game Tables, (as in the frontiſpiece) are inſcribed the fundamentals of the 12 major keys, according to the order of ſucceſſion by 4ths, with their relative minor

minor keys, below or within each, proceeding to the left, in the following order.

Major keys	D♭♭ C	F	B♭	E♭	A♭	D♭
Minor keys	B♭♭ A	D	G	C	F	B♭

Major keys	G♭	C♭	F♭	B♭♭	E♭♭	A♭♭
Minor keys	E♭	A♭	D♭	G♭	C♭	F♭

68. As a great number of ſharps or flats in the ſignature of a key is troubleſome in writing, and embaraſſing to the performer, it is uſual, when the number of either exceeds ſix, to take the denomination and ſignature from the correſponding ſcale of the other ſucceſſion, in which the number of ſharps or flats will, of courſe, be leſs than ſix. Thus a mixed ſyſtem has been generally adopted, in which one half is taken from the ſucceſſion by ſharps, and the other half from the ſucceſſion by flats, making the two orders to meet at the middle point, or correſponding ſcales of ſix ſharps and ſix flats.

69. In the Game Tables will be found two circular ſyſtems, in which the ſignatures and the fundamental notes of the 12 major keys, are written in mu-

ſical

ſical characters upon the outer ſtave, with the correſponding letters below them, and the ſignatures and the fundamentals of the 12 minor keys, are written, in a ſimilar manner, upon the inner ſtave.

70. In the firſt circle, inſcribed, "A circular ſyſtem of all the keys, major and minor, in muſic," beginning at No 1. and proceeding along the upper ſtave, to the right, the major keys will ſucceed each other, according to the order of ſucceſſion by 5ths, in which one ſharp is gained at every ſtep, till we arrive at No. 7. where the key of F♯, meeting with its correſponding key of G♭, the ſucceſſion by 5ths is farther continued, one flat being dropt at every ſtep, till we come round to C. In the inner ſtave are contained the *relative minor keys*, in the ſame order of ſucceſſion; the circle being divided into twelve ſections, or columns, each of theſe diviſions contains the ſignatures and fundamental of a *major key*, with the ſignature and fundamental of its relative *minor key*, and they are numbered and arranged in the following order.

No.

	No. 1	2	3	4	5	6	7	
Major keys -	C	G	D	A	E	B	F♯	G♭
Minor keys -	A	E	B	F♯	C♯	G	D♯	E♭

	No 7	8	9	10	11	12.
Major keys	F♯	G♭	D♭	A♭	E♭	B♭	F
Minor keys	D♯	E♭	B♭	F	C	G	D

Again, beginning at No. 1. and proceeding along the circle, towards the left hand, the major keys, with their relative minors, will be found to ſucceed each other according to the order of ſucceſſion by 4ths, as C, F, B♭, &c. one flat being added at each ſtep, until we arrive at No. 7. where the key of G♭, meeting with its correſpondent key of F♯, one ſharp is afterwards dropt at every ſtep, until we return to C. *

DES-

* The 2d circle, " of keys with uncommon ſignatures," will be mentioned in the 2d part of the introductory game.

DESCRIPTION

OF THE

MUSICAL GAME TABLES,

AND

APPARATUS.

THE Box is compoſed of two equal pieces or frames of Cabinet-work, united by hinges, like Backgammon Tables. When it is opened, or ſpread out, the two pieces exhibit different faces. *

The one preſents, at each end, two Mufical Staves, or Syſtems of five lines.

In each line and ſpace of theſe ſtaves, a number of ſmall holes are drilled, in which are occaſionally ſtuck the pieces of turned ivory and wood, which are deſigned to repreſent the ſharps and flats, that ſeverally belong to the different keys or modulations of muſic.

Under

* See the Frontiſpiece.

Under each of theſe ſtaves there is a drawer, in one of which are contained the dice, pins, &c. which are uſed in playing with ſharps; and, in the other, the correſponding dice, pins, &c. uſed in playing with flats.

Theſe drawers are pulled out from the ends of the frame, and, when in their places, are kept firm by braſs pins running through the edge.

The middle ſpace betwixt them is divided into three compartments, two of which contain the dice boxes. In the centre one are placed ſeven engraved cards, inſcribed with the different muſical cliffs. When the boxes are taken out and the game is to be played, this vacant ſpace is covered by a moveable lid, which at other times reſts upon one of the ends. The ſurface of the table is by that means rendered compleat and uniform.

Upon the outer part of the border round it, are written the fundamental letters of all the 12 major keys, according to the order of ſucceſſion by flats; and immediately below or within each of theſe, the

funda-

fundamentals of their relative minor keys. At each letter there is a ſmall hole for receiving a pin.

The other face or table is of one piece. At each end is a delineation of the Clavier or finger touches of a Piano forte, in every one of which there is a ſmall hole. Above theſe are two muſical ſtaves, on which are written in crotchets the whole ſcale of natural notes.

In the round head of each crotchet, there is a ſmall hole, for receiving pins or moveable notes; and alſo immediately below each of them, there is another ſmall hole for receiving the pins, on the heads of which are the characters of Sharp, Double Sharp, Flat, Double Flat, and Natural.

Around this table there is a border ſimilar to that which ſurrounds the other table, on which are marked the fundamental letters of the 12 major keys, according to the order of ſucceſſion by ſharps, with their relative minors below or within each.

In the Drawer which contains the Apparatus for ſharps, there is at one end in front a ſquare compart-

ment, in which is an uncovered box or moveable frame, divided by a partition in the middle into two cells, in one of which are contained 14 pieces of turned ivory, and in the other, 10 ſuch pieces of a different ſhape, the former intended to repreſent ſingle ſharps, and the latter to repreſent double ſharps; and deſigned to be ſtuck into the holes in the lines and ſpaces of the ſtaves upon the table firſt deſcribed, for the purpoſe of exhibiting the ſignatures of all the keys of Muſic with ſharps.

Behind this compartment are two ſmall ſquare cells, in each of which is a cylindrical box, the one containing 12 larger, and the other 12 ſmaller Ivory Counters.

The remaining part of the front of the drawer is a range, divided into four ſmall ſquare compartments, marked 1, 2, 3, 4, in each of which are four dice, and a ſmaller one at the end, marked 5, in which lie two ivory pins.

The firſt pair of dice in the compartment 1, have upon their faces, the one, the capital letters G, D, A, E, B, F$^{\times}$, being the fundamentals of ſix major keys with

with ſignatures in Sharps; the other, the ſmall letters e, b, f♯, c♯, g♯, d♯, being the fundamentals of ſix relative minor keys with ſignatures in ſharps. The ſecond pair in the compartment 1, have upon their faces, the one, the capitals C♯, G♯, D♯, A♯, E♯, B♯, being the fundamentals of the ſix remaining major keys, with uncommon ſignatures, or according to the order by ſharps continued from ſix to twelve; the other, the ſmall letters a♯, e♯, b♯, fX, cX, gX, the fundamentals of the ſix remaining minor keys with uncommon ſignatures.

The four dice in the compartment 2, have each upon their faces reſpectively in order the very ſame fundamentals of the keys major and minor with the former, repreſented in muſical notes upon Baſs ſtaves, with the ſignatures proper to each.

In the compartment 3, there is 1ſt, a Die having upon its faces C, the ſame note on a muſical ſtave, A, the ſame note on a muſical ſtave, and two baſs ſtaves without ſignatures; 2dly, a Die having on its faces baſs ſtaves, with ſignatures of 1, 2, 3, 4, 5 and 6 ſharps, but without any notes; 3dly, a Die having upon three of its faces the latter T, and upon the other

other three the letter S; 4thly, a Die having upon its faces the characters of Treble, Baſs and Tenor Cliffs.

In the 4th compartment are dice with various numeral figures.

The ſpace behind this range is divided into two compartments. In one of theſe, upon a raiſed ſurface, are ſtuck 14 ivory pins, with ſmall flat heads, on ſeven of which are marked the muſical character ♯, or ſharp, on five the character X or double ſharp, and on two, the character ♮ or natural.

Upon the ſunk ſurface beſide theſe are ſtuck three ivory plates, bearing the marks of the treble, tenor and baſs cliffs.

In the other compartment are ſtuck 8 black and two white pins, with ſmall round heads, which are uſed as muſical notes.

The other drawer, which contains the apparatus for flats, is, in its diviſions and compartments, exactly ſimilar to the one now deſcribed. The 14 and the

10 pieces of turned work contained in the divided box, or moveable compartment, which repreſent ſingle and double flats, are exactly of the ſame form with thoſe for ſharps, but for the ſake of diſtinction are made of dark-coloured wood. The counters are of ivory ſtained red.

The 1ſt pair of dice in the compartment 1, have, the one, the capitals F, B♭, E♭, A♭, D♭, G♭, the fundamentals of ſix major keys, according to the order by flats; and the other, the ſmall letters d, g, c, f, b♭, e♭, the fundamentals of the reſpective minor keys.

The 2d pair have, the one, C♭, F♭, B♭♭, E♭♭, A♭♭, D♭♭, the fundamentals of the other ſix keys with uncommon ſignatures, or according to the order by flats continued up to 12; the other, a♭, d♭, g♭, c♭, f♭, b♭♭, their reſpective minors.

The four dice in the compartment 2, have the very ſame fundamentals, repreſented in muſical notes upon baſs ſtaves, with their proper ſignatures.

In

In the compartment 3, there is, 1ſt, a Die having baſs ſtaves with the ſignatures of one, two, three, four, five, and ſix flats, but without notes; 2dly, a Die having upon its faces one line, one line and a half, 2 lines, 2 lines and a half, 3 and 4 lines; 3dly and 4thly, a pair, having upon their faces various thorough baſs cyphers, and cords upon muſical ſtaves.

In the compartment 4, there is, 1ſt, a Die having upon one of its faces the character ♮, upon two, the character ♯, and upon the other three, numeral figures. 2dly, A Die having upon one of its faces the character ♮, upon two, the character ♭, and upon the remaining three, numeral figures. Laſtly, A pair bearing upon their faces the fundamental letters of all the keys major and minor of the firſt circular ſyſtem.

INTRO-

INTRODUCTORY GAME.

PART I.

THE object of this firſt part of the game, or exerciſe, is, to impreſs upon the memory, and to render eaſy and familiar, the ſignatures of the major keys.

To play this Game, there muſt be taken from the two drawers,

1ſt. The die No. 1. having capital letters, found in the firſt compartment of each drawer.

2dly. The moveable compartment, No. 6. containing the pins which repreſent ſharps and flats.

3dly. The ivory plates, bearing the characters of the Treble and Baſs cliffs.

4thly.

4thly. The boxes containing the twelve large Counters.

The different faces of one die, preſent the fundamentals of ſix keys, having for their ſignatures from one to ſix ſharps, viz.

Major keys - -	G	D	A	E	B	F♯
Number of ſharps -	1	2	3	4	5	6.

The faces of the other die, preſent the fundamentals of ſix keys, having for their ſignatures from one to ſix flats, viz.

Major keys - -	F	B♭	E♭	A♭	D♭	G♭
Number of flats -	1	2	3	4	5	6

One party is to play in flats, the other in ſharps; and whoever, upon throwing a die, turns up the key with the greateſt number of ſharps or flats, plays firſt, and has the choice of playing with ſharps or flats.

Each player is to place his Baſs cliff on the fourth line of either of the ſtaves, as at a. in the frontiſpiece.

The

The firſt player, having thrown his die, muſt firſt tell the number of ſharps or flats belonging to the key which he has turned up. He muſt then arrange the ſharps or flats on the ſtave on which he has placed his cliff, by putting the pins in the holes which are made for that purpoſe, naming them, and ſetting them up in the exact order in which they enter the muſical ſyſtem, and in which they are arranged on the outer ſtave of the firſt circular ſyſtem. For doing this, the following Rules may be of uſe.—The firſt ſharp, which is F, is to be placed on the fourth line; the 2d, C, on the fourth degree from that, deſcending; the 3d, G, on the fifth degree, aſcending; the 4th, D, on the fourth degree, deſcending; the 5th, A, on the fourth, deſcending; and the 6th, E, on the fifth, aſcending. See Plate II. No. 4.

The firſt flat, which is B, muſt be placed on the ſecond line of the ſtave; the 2d, E, on the fourth degree, aſcending; the 3d, A, on the fifth, deſcending; the 4th, D, on the fourth, aſcending; the 5th, G, on the fifth, deſcending; and the 6th, C, on the fourth, aſcending. See Plate II. No. 4.

The ſecond player next throws, names, and arranges the ſignature of the key which he has turned up, in the ſame manner. They then count the number of ſharps and flats which each has ſet up, and for every ſharp or flat which the one player has more than the other, he gains a point of the game, which is to be marked by putting up a Counter. This comparative reckoning is to be repeated after each throw of the ſecond player, ſo long as the game laſts.

Sequences.

The die of the firſt player is to remain on the table, until the ſecond player has thrown; and if the two letters preſented are next to each other in the order of the muſical alphabet, as B C, G A, &c. the ſecond player gains one point or counter.

Falſe Pairs.

If the two dice preſent the ſame letter, as G G♭, F F♯, the firſt player gains one point or counter.

Counter-

Counter-parts.

When either of the players obtains a throw which gives the ſame number on his ſtave which is already arranged upon that of the adverſary he ſets up one counter ; if the number on both ſtaves be ſix, he is entitled to ſet up three counters.

When either player turns up the ſame key he had laſt thrown, and which therefore is already arranged upon the ſtave, the ſharps or flats on that ſtave muſt all be taken off, and of courſe cannot be counted at the comparative reckoning.

If either of the players, from ignorance or inadvertency, makes a miſtake in naming and ſetting up the ſharps or flats of the keys preſented by his die ; the adverſary, if he can correct the miſtake, is entitled to one point or counter.

The player who firſt gains twelve points, or puts up all his twelve counters wins the game.

The

The ſecond time this game is played, the Baſs cliffs muſt be taken off the ſtaves, and the Treble cliffs placed on the ſecond line; the pins, repreſenting flats and ſharps, are then to be reſpectively placed one line or one ſpace higher, than they were arranged upon the Baſs ſtaves. See Plate II. No. 4. lower ſtave.

PART II.

The exerciſe is here extended to keys which have from ſeven to twelve ſharps, and from ſeven to twelve flats, for their ſignatures.

In playing this part, the dies, No. 2. in each drawer, having capital letters, or major fundamentals, are to be uſed. The different faces of one of them preſent the fundamentals of ſix keys, which have for their ſignatures from ſeven to twelve ſharps, viz.

Number

Number of ſharps	7	8	9	10	11	12.
Major keys -	C𝄪	G𝄪	D𝄪	A𝄪	E𝄪	B𝄪
Number of double ſharps	1	2	3	4	5	

The faces of the other die preſent the fundamentals of ſix keys, having for their ſignatures from ſeven to twelve flats, viz.

Number of flats	7	8	9	10	11	12.
Major keys	C♭	F♭	B♭♭	E♭♭	A♭♭	D♭♭
Number of double flats	1	2	3	4	5	

The ſignatures and the fundamental notes of the above keys, are written in muſical characters, with the correſponding letters below them, upon the outer ſtave of a ſecond Circular Syſtem, which will be found within the game tables, entitled "With uncommon ſignatures."

In this Syſtem, ſetting out from the keys, No. 7. which muſt obviouſly be the ſame in both ſyſtems, and proceeding towards the right hand, the ſucceſſion by fifths is carried on in ſignatures of ſharps; and, from the ſame point, proceeding towards the left hand, the ſucceſſion by fourths is continued in ſignatures of

flats;

flats; the number of each gradually increaſing from ſix to twelve, where they meet in the key, No. 1. In reckoning the numbers of theſe ſignatures, every double ſharp, and every double flat is accounted two.

Keys, or ſignatures of more than ſix ſharps or flats, appear in the works of the moſt eminent compoſers; particularly in the progreſs of modulation, through an extended piece of muſic; and double ſharps and double flats, which neceſſarily reſult from ſuch numerous ſignatures, frequently occur.

The ſignatures of ſuch keys may be eaſily underſtood, when it is conſidered, 1ſt. That the key of C, being tranſpoſed to that of C♯, or C♭, ſeven ſharps become the ſignature of C♯, and ſeven flats the ſignature of C♭. In like manner, all other keys, when tranſpoſed a ſemitone higher, or a ſemitone lower, will have exactly ſeven ſharps or ſeven flats more than the number of their former ſignature. 2dly. That the former ſingle ſharps and ſingle flats, become double ſharps and double flats, by this tranſpoſition. Thus F, C, G, D, A, are ſingle ſharps in the key of B, and become double ſharps in the key of B♯; and in like manner, the ſingle flats, B, E, A, D, G, in

the

the key of D♭, become double flats in the key of D♭♭.

In playing this game, the ſharps or flats, double and ſingle, which belong to the keys that are turned up, are to be numbered and named, and the pins repreſenting them are to be arranged on the ſtaves, agreeably to the ſecond circular ſyſtem; the pins with coloured heads being employed to repreſent the double ſharps and double flats, and the others, as in the firſt part, to repreſent the ſingle.

For every two ſharps or flats, which one player has more than the other, after every ſecond throw, he gains one point of the game, or ſets up one counter.

A counter part of twelve on each ſtave, gains ſix points or counters.

In all other reſpects this part is played in the ſame manner as the firſt part.

PART

PART III.

The purport of this part, is to render the knowledge of the ſignatures of the minor keys equally familiar with thoſe of the major.

In playing it, the dies No. 1. having ſmall letters, in the 1ſt compartment of each drawer, are to be uſed.

The different faces of one die preſent the fundamentals of ſix keys, which have, for their ſignatures, from one to ſix ſharps, viz.

Minor keys - -	e	b	f♯	c♯	g♯	d♯
Number of ſharps -	1	2	3	4	5	6

The faces of the other die preſent the fundamentals of ſix keys, which have, for their ſignatures, from one to ſix flats, viz.

Minor keys - -	d	g	c	f	bb	eb
Number of flats -	1	2	3	4	5	6

The

The ſignatures, with the fundamental note of each of the above minor keys, will be found in muſical characters, in the inner ſtave of the firſt circular ſyſtem, over which are the reſpective major keys, which have a ſimilar ſignature, and are called their relative major keys, the fundamentals of which are two letters further advanced in the muſical alphabet, than the fundamentals of the minor keys, as will appear from the following comparative view of both.

Number of ſharps	1	2	3	4	5	6
Relative major keys	G	D	A	E	B	F𝄪
Relative minor keys	e	b	f𝄪	c𝄪	g𝄪	d𝄪

Number of flats	1	2	3	4	5	6
Relative major keys	F	B♭	E𝄫	A♭	D♭	G♭
Relative minor keys	d	g	c	f	b𝄫	e𝄫

The ſharps and flats of the minor keys are to be ſet up on the ſame lines and ſpaces, and in the ſame order, as thoſe of the major keys.

This part is to be played, in every reſpect in the ſame manner as the firſt part; with this addition, that at each throw, the player muſt, together with the mi-

nor key, name the fundamental of the key which is relative major to the minor key thrown; as E minor, one ſharp, relative to G major; or D minor, one flat, relative to F major.

PART IV.

The game is here extended to minor keys of the ſecond circular ſyſtem, with uncommon ſignatures.

In playing this part, the dies No. 2. in each drawer, having ſmall letters are to be uſed; the different faces of one, preſent the fundamentals of ſix keys, which have, for their ſignatures, from ſeven to twelve ſharps, viz.

Minor keys -	a♯	e♯	b	fx	cx	gx
Number of ſharps	7	8	9	10	11	12

The

The faces of the other die preſent the fundamentals of ſix keys, having, for their ſignatures, from ſeven to twelve flats, viz.

Minor keys -	a♭	d♭	g♭	c♭	f♭	b♭♭
Number of flats	7	8	9	10	11	12

The ſignature, with the fundamental note of each of the above minor keys, will be found, in muſical characters, in the inner ſtave of the ſecond circular ſyſtem ; and over each, in the outer ſtave, its relative major key, in the following order, viz.

Number of ſharps	7	8	9	10	11	12
Relative major keys	C♯	G♯	D♯	A♯	E♯	B♯
Relative minor keys	a♯	e♯	b♯	f x	c x	g x

Number of flats	7	8	9	10	11	12
Relative major keys	C♭	F♭	B♭♭	E♭♭	A♭♭	D♭♭
Relative minor keys	a♭	d♭	g♭	c♭	f♭	b♭♭

This part is to be played in every reſpect in the ſame manner with the ſecond part; excepting that, at each throw, the player muſt, together with the minor

minor key, name the fundamental of the key which is relative major to the minor key thrown; as "a♯ mi-"nor, ſeven ſharps, relative to C♯ major; and a♭ mi-"nor, ſeven flats, relative to C♭ major."

GAME

GAME I.

ON SIGNATURES.

PART I.

THIS Game is intended to afford a further exercise upon the signatures of all the keys of the *first Circular System*; by setting up both a major and a minor key, at each throw. In other words, the first and third parts of the Introductory Game are here joined into one; one party taking the signatures of sharps, the other the signatures of flats.

To play this game there must be taken from the two drawers,

1st. The pairs of dice No. 1. in the 1st compartment

2dly. The moveable compartments, containing the pins, which represent sharps and flats.

3dly.

3d. The ivory plates bearing the characters of the treble and baſs cliffs.

4thly. The boxes containing the twelve large counters.

Each player then throws one die; and whoever turns up the key with the greateſt number of ſharps or flats plays firſt, and has the choice of playing with ſharps or flats.

The cliffs being properly placed upon the great ſtaves, the firſt player takes his pair of dice (of which that marked with capital letters bears the fundamentals of the major, and that with ſmall letters the fundamentals of the minor keys,) and having thrown them, muſt firſt tell the number of ſharps or flats belonging to the keys which are turned up: he muſt then arrange thoſe ſharps or flats upon the ſtaves, on his ſide of the board, by placing the pins in the holes which are made for that purpoſe, naming them, and ſetting them up, in the exact order in which they enter the muſical ſyſtem, or in which they are arranged upon the circle.

The

The ſignatures of the major keys may be arranged upon the treble ſtaves, and thoſe of the minor keys, upon the baſs ſtaves; or this, at the pleaſure of the players, may be occaſionally reverſed.

The ſecond player next throws, names, and arranges the ſignatures of the keys which he has turned up, in the ſame manner. They then count the number of flats or ſharps which each has ſet up, and for every three which the one player has more than the other, he gains a point of the game, which is to be marked by putting up a counter. This comparative reckoning is to be repeated after each throw of the ſecond player, ſo long as the game laſts.

ADVANTAGEOUS CHANCES.

I. RELATIVES.

When the dice turn up a major key and its minor relative, that is, when the major and the minor preſented have the ſame ſignature, the player who obtained the throw, is entitled to 2 points, to be marked by putting up two counters.

Pairs

2. PAIRS.

When both dice preſent the ſame letter, as E e, F f, that is, when the keys turned up are major and and minor of the ſame fundamental, the thrower is alſo entitled to 2 points.

3. SEQUENCES.

When the two letters preſented are next to each other in the order of the muſical alphabet, as B c, g A, &c. 1 point.

4. COUNTERPARTS.

When either of the players obtains a throw which gives the ſame numbers upon each of his ſtaves reſpectively, as are already arranged upon thoſe of the adverſary,

A counterpart of ſixes upon each ſtave, 6 points.

A counterpart of threes upon each ſtave, 3 points.
Every other counterpart, 2 points.

DISADVANTAGEOUS CHANCES.

1. When either of the dice turns up the ſame key, which had been preſented at the laſt preceding throw, and which therefore is already arranged upon the ſtave, the ſharps or flats upon that ſtave muſt all be taken off, and of courſe cannot be counted at the comparative reckoning.

2. FALSE PAIRS.

When the ſame letter is preſented by the two dice; but the one has the character of ſharp or flat annexed to it, and the other has not, as D d♯, g G♭, the adverſary is entitled to one point.

3. CROSS COUNTERPARTS.

When, upon the ſharps or flats indicated by a throw being ſet up, the number upon the treble ſtave

is the ſame with that upon the adverſary's baſs ſtave, and the number upon the baſs ſtave is the ſame with tnat upon the adverſary's treble ſtave, the adverſary is intitled to one point.

FORFEITURES.

If either of the players, from ignorance or inadvertency, makes a miſtake in naming and ſetting up the ſharps or flats of the keys preſented by his dice, the adverſary, if he can correct the miſtake, is entitled to one point.

When relatives, pairs, or ſequences are thrown, the player who has obtained the throw muſt mark the points of the game to which it entitles him, before he begins to arrange the ſharps or flats, otherwiſe he forfeits the advantage, and to this advantage the adverſary is entitled, if he point out the omiſſion before throwing his dice.

When falſe pairs are thrown, or croſs counterparts are ſet up, the adverſary muſt mark the advantage

vantage to which he is entitled, before he proceed to throw his dice, otherwiſe he forfeits the advantage.

The player who firſt gains 12 points, or puts up all his twelve counters, wins the game.

GAME

GAME I.

ON SIGNATURES.

PART II.

This part is intended to afford the ſame exerciſe upon the ſignatures of the 2d circular ſyſtem, which the firſt part gives upon thoſe of the firſt ſyſtem.

In playing it, the pairs of dice, No. 2. in the firſt compartment, are to be uſed.

The ſharps or flats, double and ſingle, which belong to the keys that are turned up, are to be numbered and named, and the pins repreſenting them are to be arranged upon the ſtaves, agreeably to the 2d circular ſyſtem; the pins with coloured heads being employed to repreſent the double ſharps and double flats,

flats, and the others, as in the firſt part, to repreſent the ſingle.

A counterpart of ſevens entitles the thrower to 7 points.

A counterpart of twelves, to 12 points.

In all other reſpects this part is played in the ſame manner as the 1ſt part.

GAME

GAME II.

ON THE VARIOUS CLIFFS, WITH AN INTRODUCTION TO INTERVALS.

PART I.

THE purpoſe of this game and of its apparatus, is to exhibit a clear view of the different Cliffs, as they are all combined into one general ſtave or ſyſtem, both on the clavier and in muſical notation; and this is to be followed by an eaſy practice on each cliff, taken ſeparately, in all the keys uſed in muſic.

With a view to the firſt point, the great or compleat Stave of Muſic, mentioned in the Introduction, p. 16, and the different cliffs into which it is broken down, (Plate I. No. 4.) will be further illuſtrated by placing

placing the paper ſcreen mentioned in the Introduction, (p. 13) on the claviers delineated on the game tables, which will divide it into the five following portions, or octaves, viz. 1. Double Baſs. 2. Baſs. 3. Tenor. 4. Treble. 5. High Treble. (See the frontiſpiece). And alſo by placing on the ſtaves, on the other face of the Game Tables, the two cards, No. 6. having the treble, tenor, and baſs cliffs engraved on each, found in the compartment between thoſe for the dice boxes, fixing them (with pins taken from the compartment No. 9.) at the beginning of the ſtaves correſponding to a a. in the frontiſpiece, and making the lines of the cards coincide with thoſe of the Game Tables.

After the inſpection and compariſon of both ſides of the Tables with this apparatus, the game for the practice on the various cliffs may be begun, after collecting the following particulars.

1. The die of lines, or broken ſtaves, in the 3d compartment of the drawer No. 1.

2. The three dice, in the 4th compartment of the

ſame

ſame drawer, bearing ſingle figures, excluding the 4th die inſcribed with figures croſſed by ſhort lines.

3. The die, in the 3d compartment of the ſame drawer, on which the treble, baſs, tenor, counter-tenor, and two ſoprano cliffs are engraved.*

4. The five cards on which the different cliffs are engraved, from the compartment betwixt thoſe for holding the dice boxes.

5. Each player is to take out the three ivory cliffs, in compartment 10, of each drawer, together with both boxes of counters, and 4 black, and 2 white pins, from compartment 9.

The firſt throw may be determined by the greater number of lines caſt up by the die of broken ſtaves and lines; and the cliff in which each is to play, is determined by throwing the die of cliffs.

As

* The Baritone Cliff, (Plate I. No. 4.) is omitted, on account of its not being now in uſe, and its practice being thereby rendered unneceſſary.

As each party muſt play in a different cliff, the ſecond player muſt throw until he caſts up a cliff different from that which had been obtained by the other party.

The cards correſponding to the two cliffs turned up, are then to be fixed by two of the black pins, at the holes correſponding to c c, in the frontiſpiece; the baſs on the lower ſtave, the treble on the upper; and the C, of each of the cliffs of tenor, counter-tenor, and ſoprano, muſt be placed on, and coincide with the middle line of the great ſtave, as at e e, of the frontiſpiece.*

The object of this firſt part of the game is confined to ſetting up the ſimple intervals, within the compaſs of an octave, in the natural key of C, on all the cliffs now in uſe.

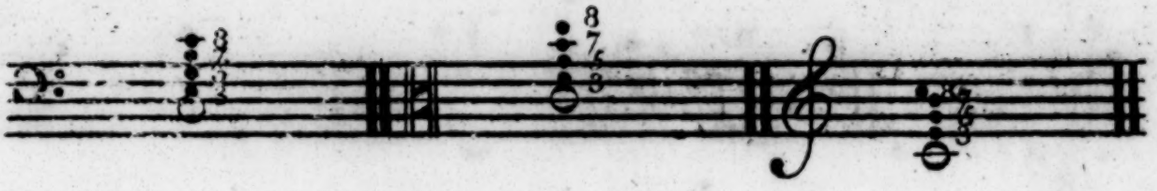
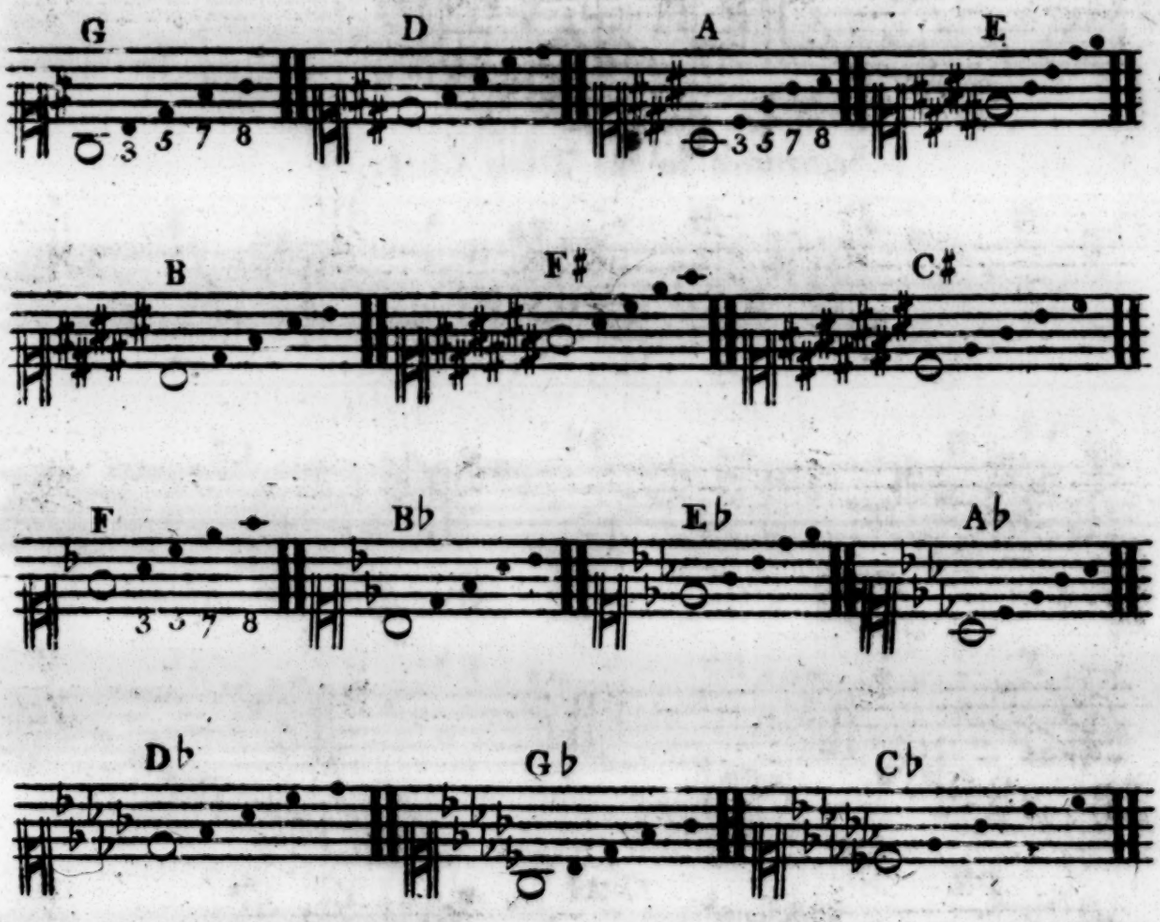
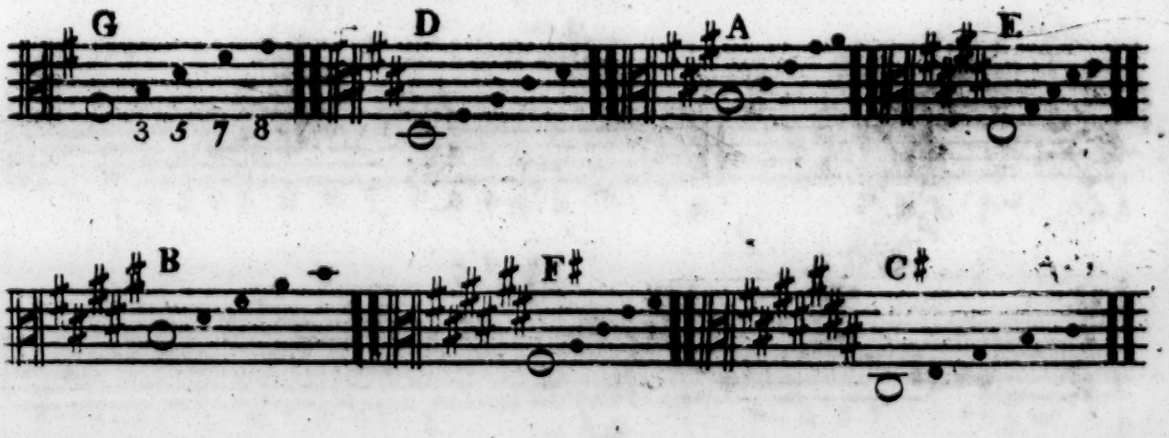
* The ſubſcribers and purchaſers of Game Tables, in which the holes and lines do not correſpond with thoſe at b c d. of the frontiſpiece, are requeſted to ſend them to the agents at London or Edinburgh, or otherwiſe to procure them to be added, and drilled, conform to the frontiſpiece, and to draw a middle line at e e e, with a pencil.

And therefore each player, previous to playing, is to place the white pin on C, at the place correſponding to d d, in the frontiſpiece, ſufficiently low on the ſtave for taking the intervals as far as poſſible within the ſtave.

The firſt player then throws the die of lines or broken ſtaves, and he is to ſet up on the ſtave, with a black pin, at the proper diſtance over the white pin, the interval correſponding to the face turned up; namely, if the face with one line, which repreſents uniſon, no interval is to be ſet up.—if one line and a half, a 2d is to be ſet up.—if two lines, a 3d.—if two lines and a half, a 4th.—if three lines, a 5th.—and if four lines, a 6th, 7th, or 8ve.

To decide which of theſe three laſt intervals is to be ſet up, the three dice with figures are to be thrown together, and in general the higheſt number thrown, will be the interval that muſt be ſet up, excepting when a 7 caſts up with an 8; in which caſe the 7th muſt be the interval ſet up, and not the 8ve, in order to equaliſe the chances. The manner of ſetting up the intervals may be further ſeen by inſpecting Plate V. No. 1.

where

N.o 1 To face P. 114.

N.o 2 1 Signatures in the Soprano Cliff

2. Signatures in the Counter Tenor

And therefore each player, previous to playing, is to place the white pin on C, at the place correſponding to d d, in the frontiſpiece, ſufficiently low on the ſtave for taking the intervals as far as poſſible within the ſtave.

The firſt player then throws the die of lines or broken ſtaves, and he is to ſet up on the ſtave, with a black pin, at the proper diſtance over the white pin, the interval correſponding to the face turned up; namely, if the face with one line, which repreſents uniſon, no interval is to be ſet up.—if one line and a half, a 2d is to be ſet up.—if two lines, a 3d.—if two lines and a half, a 4th.—if three lines, a 5th.—and if four lines, a 6th, 7th, or 8ve.

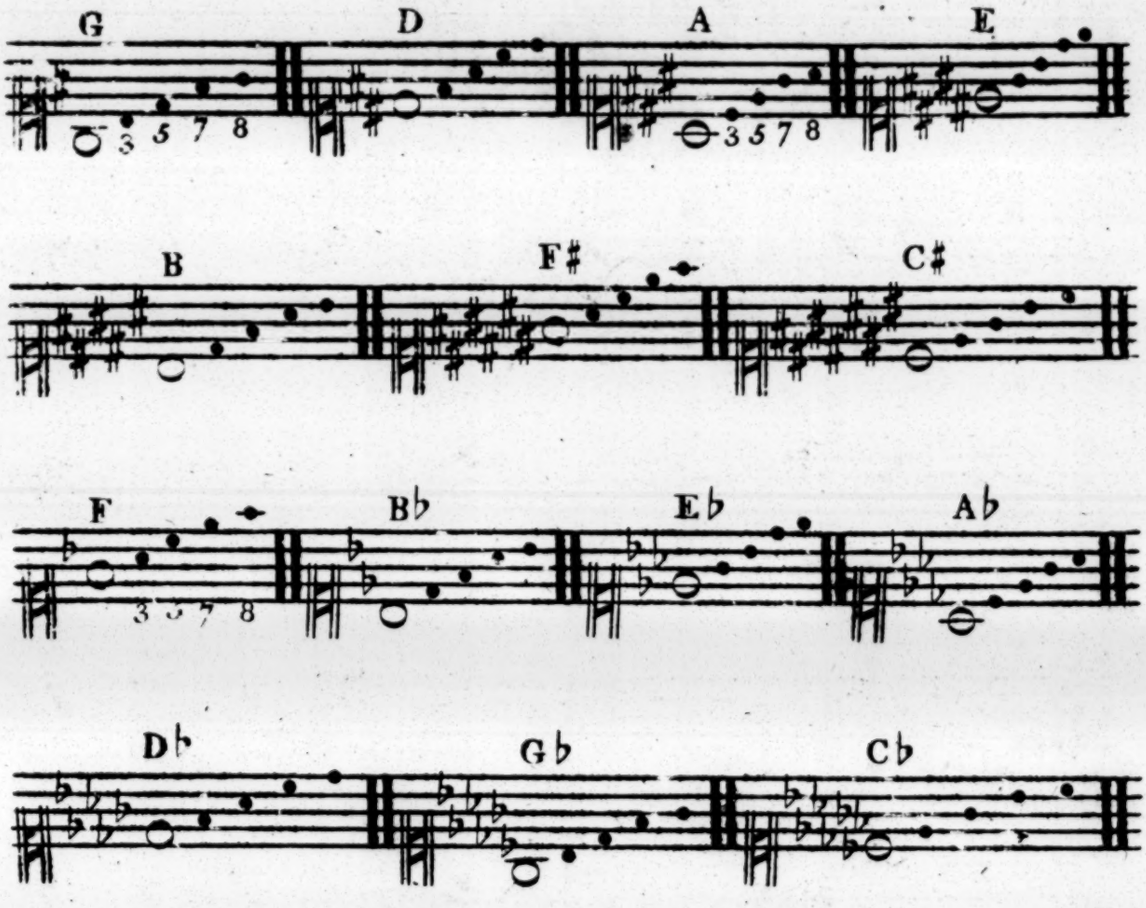
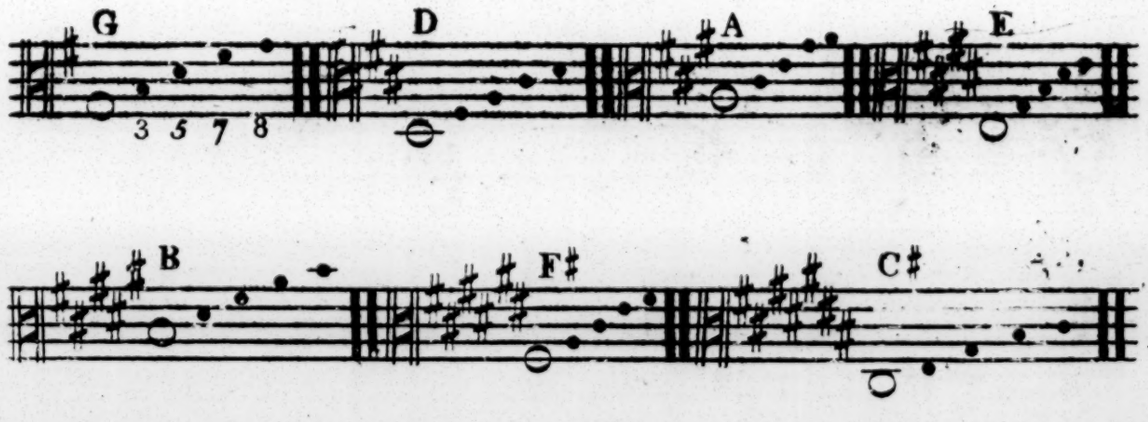
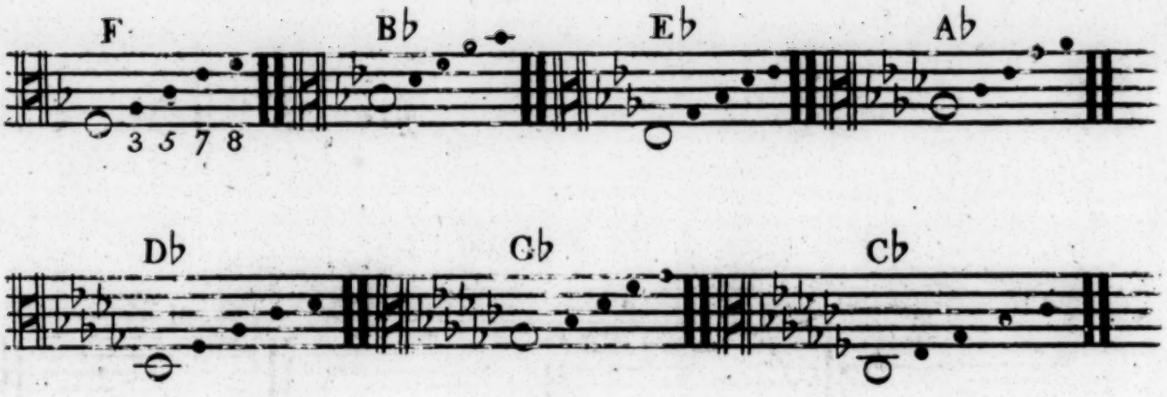
To decide which of theſe three laſt intervals is to be ſet up, the three dice with figures are to be thrown together, and in general the higheſt number thrown, will be the interval that muſt be ſet up, excepting when a 7 caſts up with an 8; in which caſe the 7th muſt be the interval ſet up, and not the 8ve, in order to equaliſe the chances. The manner of ſetting up the intervals may be further ſeen by inſpecting Plate V. No. 1.

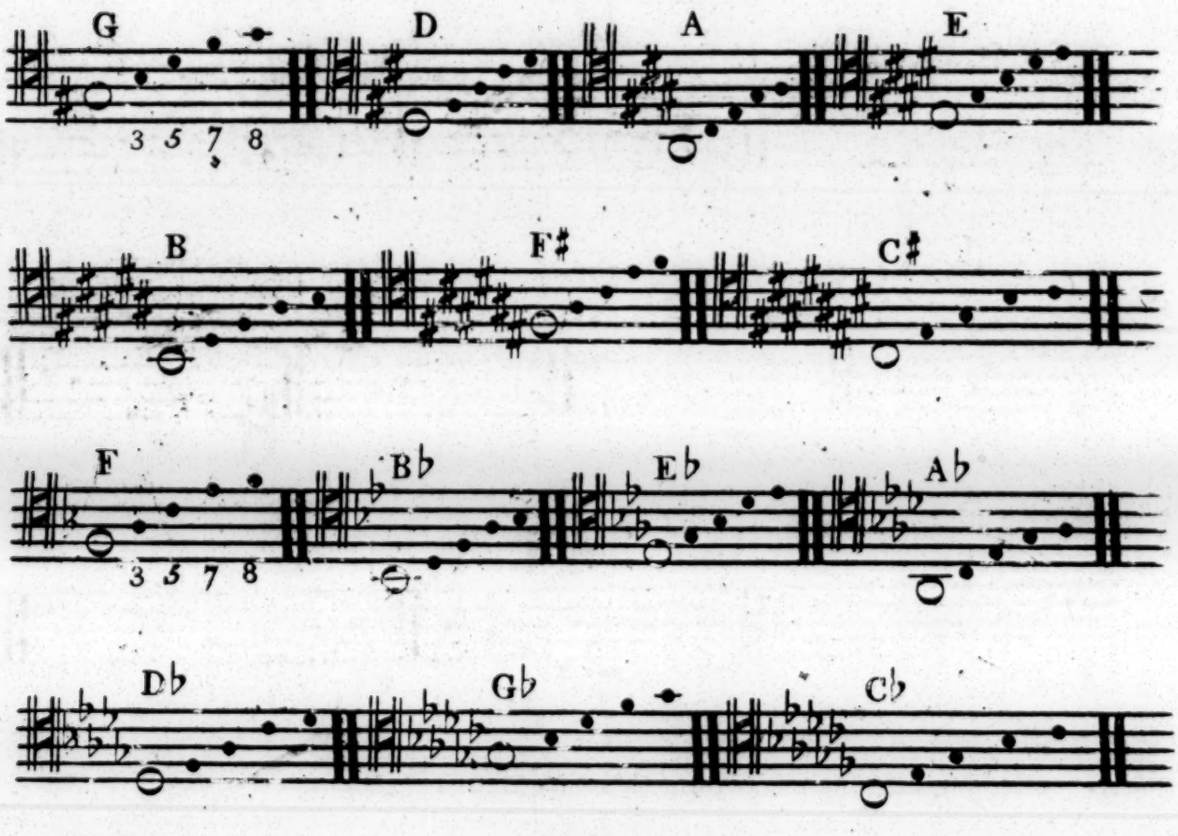
where

N.o 1

Plate V

N.o 2

1 Signatures in the Soprano Cliff

2. Signatures in the Counter Tenor

3. Signatures in the Tenor Cliff.

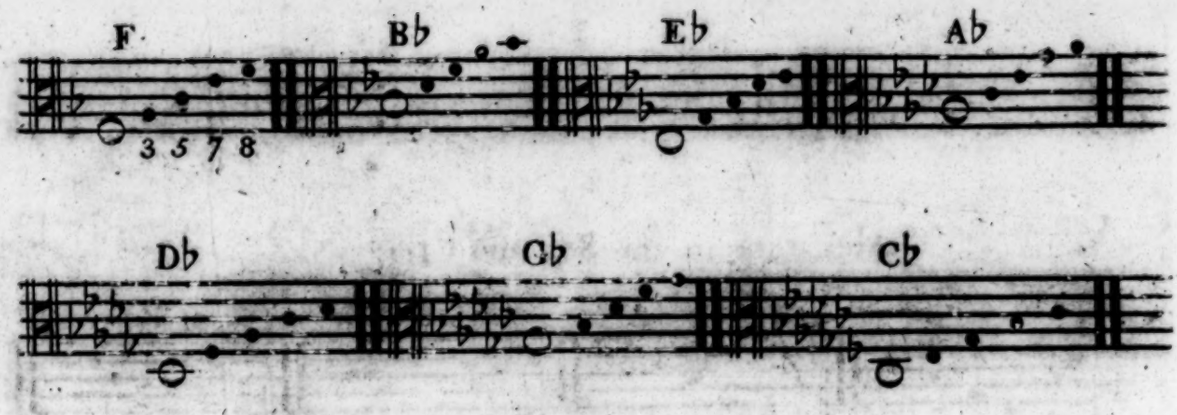
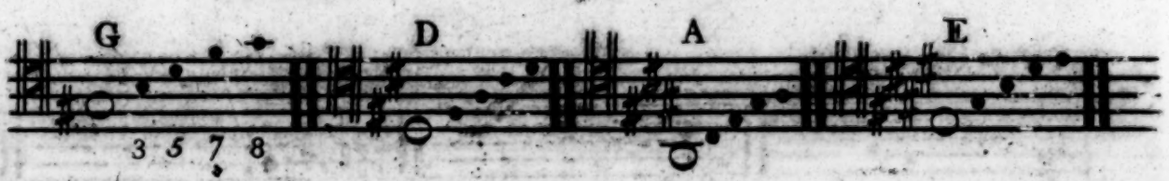
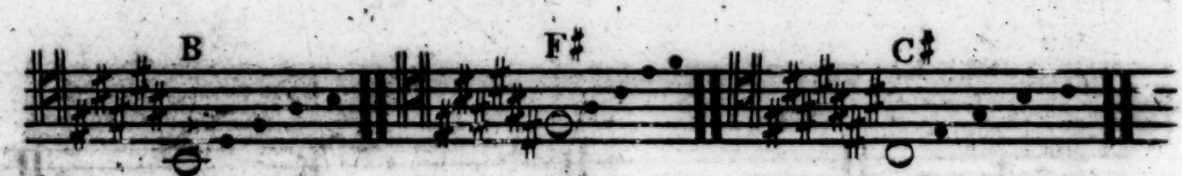
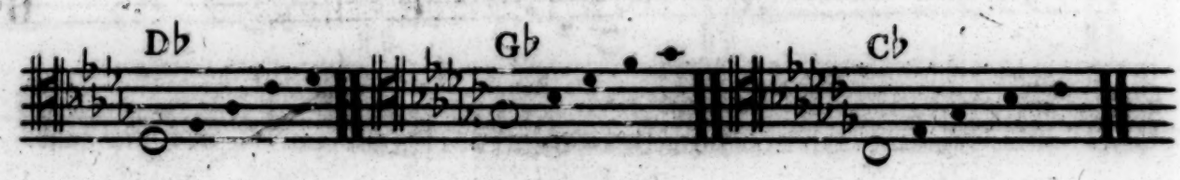


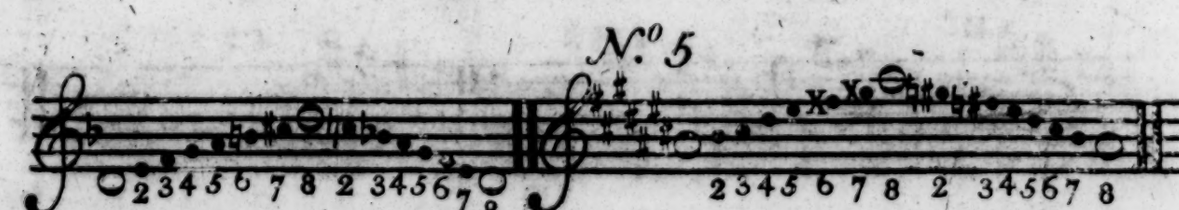
where a 3d, 5th, 7th, and 8ve, are exhibited on three different cliffs.

After ſetting up the interval, the player muſt name it in the following manner: "C D, a 2d—C E, a 3d—C F, a 4th," &c. and muſt alſo ſay whether it be a diſcordant or concordant interval. The concordant intervals are the 3d, 4th, 5th, 6th, and 8ve—and the diſcordant are the 2d and 7th. (Introduction 31 and 37.)

The 3d and 6th are imperfect concords, and when theſe are thrown, the player ſets up ſix *ſmall* counters.

The 4th, 5th, and 8ve, are perfect concords, and a *large* counter is to be ſet up for each, when thrown.

When the diſcordant intervals of 2d and 7th are thrown, the player forfeits ſix ſmall counters to the adverſary; and if, while he is in poſſeſſion of this forfeit, the ſame player throws another diſcordant interval, the adverſary then ſets up one of his own large counters, and returns the ſix ſmall counters. If a player

3. Signatures in the Tenor Cliff.





where a 3d, 5th, 7th, and 8ve, are exhibited on three different cliffs.

After ſetting up the interval, the player muſt name it in the following manner: "C D, a 2d—C E, a 3d—C F, a 4th," &c. and muſt alſo ſay whether it be a diſcordant or concordant interval. The concordant intervals are the 3d, 4th, 5th, 6th, and 8ve—and the diſcordant are the 2d and 7th. (Introduction 31 and 37.)

The 3d and 6th are imperfect concords, and when theſe are thrown, the player ſets up ſix *ſmall* counters.

The 4th, 5th, and 8ve, are perfect concords, and a *large* counter is to be ſet up for each, when thrown.

When the diſcordant intervals of 2d and 7th are thrown, the player forfeits ſix ſmall counters to the adverſary; and if, while he is in poſſeſſion of this forfeit, the ſame player throws another diſcordant interval, the adverſary then ſets up one of his own large counters, and returns the ſix ſmall counters. If a player

player ſhould throw the ſame interval he has laſt ſet up, a ſecond or third time in ſucceſſion, theſe repetitions are to be conſidered as loſt throws.

Twelve ſmall counters are held to be equivalent to one large counter, and the party who firſt ſets up twelve large counters, wins the game.

As ſoon as either party has ſet up ſix large counters, he muſt transfer the laſt interval to one of the ſtaves with muſical notes, on the other face of the Game Tables. That is, he is to place the ivory cliff correſponding to that in which he has been playing, at the beginning of one of the two ſtaves marked ff. in the frontiſpiece, in order that the ſubſequent intervals may be ſet up on ſuch ſtave, in the oblique or aſcending direction of the notes.

If it ſhould happen that either player has ſet up five large counters, and ſix ſmall counters, and has alſo got ſix of the adverſary's ſmall counters, they are to be held equivalent to ſix large counters; and in the ſame manner, eleven large and ſix ſmall counters, with ſix of the adverſary's, win the game.

When

When the players can ſet up the intervals on all the cliffs with eaſe and readineſs, it is then recommended to join along with this, the practice of ſetting up the ſame intervals on the clavier, by each player placing a white pin on that C in the clavier, which correſponds to his key note, and every interval ſet up on the ſtave, to be alſo ſet up with a black pin on the clavier. When uniſon caſts up, the black pins muſt be taken off the ſtave and the clavier. This with all other pins not in uſe, may be placed in any of the holes on the face of the Game Tables, and the ſmall counters may be divided into two parcels of ſix each.

Every miſtake made by the player, in ſetting up or naming his interval, if perceived and corrected by the adverſary, ſhall be a forfeit, by the former, of ſix ſmall counters.

GAME

GAME II.

ON THE VARIOUS CLIFFS. &c.

PART II.

THE exercise of the second part of the game, is to take similar intervals with those of the first part on all the cliffs, in all the other keys of music; and to take them *descending* as well as *ascending*; the descending intervals to be moreover named by their *inversions*, or *complements* to the lower octave. (Introduction 33.)

The rules of the game are the same as in the first part. The apparatus is also the same, (omitting the cards engraved with the several cliffs), with the addition of the 7 small pins with single sharps, and the same number with single flats, found in compartment 10 of each drawer.

One

One player is to have a key with ſharps, the other a key with flats, for its ſignature.

The two cliffs to be played in, to be determined as before.

It is recommended to take the keys, at firſt, in the order in which they are placed in Plate V. No. 2. beginning with that of G, on one ſide, and of F, on the other.

The practice of placing the ſharps and flats on the ſtave, in a proper ſeries, being limited by Game 1ſt to the baſs and treble cliffs, it may be proper, at firſt, to reſort occaſionally to the ſignatures of keys on the ſoprano, counter tenor, and tenor cliffs, given in Pl. V. No. 2; where it may be obſerved, that the firſt ſharp on F, throughout the ſignatures of the ſoprano and counter tenor, is placed a fourth above the character of the cliff; but that in the *tenor*, it is more conveniently placed on the F, which is a 5th below the ſame: and that the firſt flat is placed on the next degree or 2d below the ſign of the cliff, on the counter tenor and tenor cliffs; but, that in the ſoprano, it is placed on the 7th (fourth line) above the ſame.

With

With reſpect to placing the *fundamental* or key note, it may be obſerved, that if the *laſt ſharp* ſtands in the lower part of the ſtave, it may be the note immediately above ſuch ſharp; but, if the laſt ſharp be towards the middle, or higher on the ſtave, it may be placed a 7th below it: *and in flats*, that the key note is placed a 4th below the laſt flat, excepting in the keys of B♭ and A♭ on the tenor cliff, where it is placed an 8ve lower than the 4th, to the laſt flat. (See Plate V. No. 2.)

The ivory cliffs are to be placed as at b, of the frontiſpiece, and the pins for the ſignatures are to be placed in the holes between c and d. The ſoprano, counter tenor, and tenor cliffs, are to be placed on the upper ſtave.

The intervals are to be named and ſet up on the clavier, after they have been ſet up on the ſtave; and omitting the addition of the proper flat or ſharp, in naming the interval, is to be a forfeit of ſix ſmall counters. Thus, in the key of G, the interval of 7th, muſt be named G F♯; and in the key of F, a 4th, muſt be named F B♭, &c.

When

When either party has ſet up ſix large counters, he is to take the white pin from the clavier, and place it on the ſtave, an 8ve above his other white pin or fundamental, and alſo to remove the black pin which marked his laſt interval. The remaining intervals are to be computed from the upper 8ve, and taken downwards on the ſtave; and the complement or remaining interval of each from the fundamental, muſt be alſo named as at Plate V. No. 3. where the deſcending interval of a 4th from G, is a 5th to the lower G; and the 5th from F deſcending, is a 4th to the lower F.

Thus, in the above caſes, the players, on ſetting up theſe intervals, muſt ſay, 'D, a 4th from G de-'ſcending, is the complement or inverſion of a 5th 'to G aſcending; and B♭ a 5th from F deſcending, 'is the complement or inverſion of a 4th to F 'aſcending.' For the complements of all other intervals, ſee Introduction (33) and Plate III.

GAME II.

ON THE VARIOUS CLIFFS, etc.

PART III.

THE object of this part of the game, is to render eaſy and familiar the peculiarities of the minor ſcale, namely, its minor 3d, in all circumſtances, and the change of its 6th and 7th, which are *major* in the *aſcendiug*, and *minor* in the *deſcending* ſcale. (Introduction 58 and 59.)

The intervals to be ſet up, until ſix counters are gained, are to be conſidered as thoſe of the aſcending ſcale: and after placing a white pin on the 8ve, as in the ſecond part, the remaining intervals are to be computed downwards, and conſidered as thoſe of the deſcending ſcale.

Thus

Thus in the key of E minor, when the 6th or 7th is to be ſet up, as in the aſcending ſcale, an accidental or additional ſharp, is to be put in the hole immediately before the black pin, which is to be removed in the deſcending intervals; and, in the key of D minor, a natural (♮) is to be placed before the 6th, and a ſharp (♯) before the 7th, of the aſcending ſcale, (the uſe of the ſharp and flat pins being common to both parties), both which are to be removed in the deſcending ſcale, as in Plate VI. No. 4.

In minor keys, which have ſeven or more ſharps for their ſignature, the 6th and 7th of the aſcending ſcale muſt have double ſharps prefixed, which are rendered ſingle in the deſcending ſcale, as in the key of A♯ minor, Plate VI. No. 5.

The apparatus and rules of this part are the ſame as in the 2d part, with this additional rule, that, in ſetting up the 3d of the aſcending ſcale, or its complement the 6th of the deſcending ſcale, the player muſt always ſay, ‘ that ſuch 3d is the funda-
‘ mental of the relative major, which is a minor 3d
‘ above its relative minor,’ or, forfeit ſix ſmall counters to the adverſary. See Introduction 66.

The

The firſt game may be played in E minor on the one ſide, and D minor on the other; and the remaining minor keys may be afterwards taken in the order of the ſignatures of major keys, in Plate V. No. 2., by placing the white pin, as fundamental of the reſpective relative minor keys, a 3d below the fundamental of the major keys there given.

GAME

GAME III.

ON MUSICAL INTERVALS.

PART I.

INTERVALS UPON THE CLAVIER OR KEY-BOARD.

THIS firſt part of the game is an exerciſe on ſetting up on the clavier or key-board, all the intervals which occur in muſic. *

The game is played by means of the pairs of dice No. 3, in 2d compartment, or thoſe with common ſignatures, the one player taking the pair with ſharps, and the other the pair with flats. The firſt throw, and

* Every neceſſary information concerning intervals will be found in chap. iv. of the Introduction.

and the choice of playing with ſharps or with flats, are determined by throwing ſingle dies.

The perſon who plays with ſharps places one of the pins which are found in the 5th compartment, upon the key A *, of the double baſs octave or third long key, and his object is to aſcend to the higheſt. The other player places one of his pins upon the higheſt

* This ſmall advance given to the ſharps, is in order to equalize the chances, by giving to that ſide an equivalent for a very advantageous throw which might occur to the player on the other ſide, and entitle him to move from f to D♭, being very nearly half the extent of the clavier; viz.—Suppoſe the player with flats ſhould turn up the minor of F, and its relative major A♭, the pin being in the higheſt f of the clavier, this throw would entitle him to move, 1ſt, to a♭, major 6th, being the interval turned up by the dice; 2dly, to d♭, perfect 5th, being the advantage of relatives; 3dly, to D♭, perfect 8ve, being the advantage to which a coincidence intitles the player. To this throw there is none to correſpond on the ſide of the ſharps but that of A major, and F♯, its relative minor, which, when the pin is in the loweſt A of the clavier, will, by the ſucceſſive ſteps of a 6th to F♯, a 5th to C♯, and an 8ve to C♯, bring the pin to the ſame finger key of the clavier (D♭), to which the former throw extended.

higheſt key f, and his object is to get down to the loweſt. The player who firſt attains his object wins the game.

When the dice are thrown, the player, by attending to the ſignatures and the notes which they preſent, and by comparing them together, muſt tell the names of the two keys, and which of them is major and which minor. He muſt alſo tell the exact muſical interval betwixt them, and whether that interval be concordant or diſcordant. If then the interval is concordant, he moves his pin the exact extent of it, *forward*, or according to the proper direction of his game; if it is diſcordant, he moves his pin the extent of it *backwards*, or in the contrary direction.

If a diſcordant interval caſt up at the beginning of the game before any movement has beenmade, the throw is loſt. If the ſtation of the player be not ſufficiently advanced, to allow a diſcordant interval to be taken backwards its whole extent, he returns to his original ſtation.

RELATIVES.

When the ſignatures are the ſame, that is, when the keys preſented are major and minor relative, the pin is firſt to be advanced, the concordant interval preſented, and afterwards a perfect 5th in addition.

PAIRS.

When the dice preſent a pair, that is, when the notes are uniſon, or perfect primes, the pin is to be carried forward an octave. Before moving, the thrower muſt call upon the adverſary to give the uniſon, which he muſt do by placing a pin in the ſame key of his clavier, in which the pin of the thrower ſtands; at the ſame time telling its name, and the particular octave of the inſtrument, in which it is. If the adverſary performs this without miſtake, he gains a major 3d, or is entitled to take that interval forward upon his clavier. If he fails, or makes any miſtake, he muſt go backwards a 5th.

When

When the dice preſent a falſe pair, or the notes are imperfect primes, the thrower, before he move backward the diſcordant interval or ſemitone, muſt give a ſimilar challenge to the adverſary, who muſt place a pin in the key which is imperfect prime to that in which the pin of the thrower ſtands, at the ſame time telling the names of both, and the particular octave of the inſtrument, in which they are. If he executes this accurately, he gains a 5th, if he fails, he muſt go back a major 3d.

COINCIDENCES.

When the interval to be moved upon the clavier, happens to be the ſame, not only in extent but in the names of its two terms, with that preſented by the dice; in other words, when the pin is upon a key of the ſame name with the note preſented by one of the dice, and proceeding forward or backward according to the rules of the game, it is to be carried to a key of the ſame name with the note preſented by the other, the thrower, after having moved his interval, is entitled to advance an octave.

FORFEITURES.

If a player, upon throwing his dice, ſhall make a miſtake in reporting the ſignatures, keys, and interval preſented by them, and ſhall have taken hold of his pin, for the purpoſe of moving it, or marking the interval; and if the miſtake ſhall be challenged by the adverſary, he ſhall forfeit any advantage which he might have gained by the throw.

If again, a player, in performing his interval, ſhall place his pin upon a wrong key, or that is not diſtant from the former ſtation the exact extent of the interval preſented by the dice, and ſhall have withdrawn his hand from it, if the interval was concordant, he ſhall loſe the advantage of the throw, or be obliged to bring back his pin to the former ſtation; if the interval was diſcordant, he ſhall be obliged to carry back his pin a major 3d, beyond the exact extent of it. The adverſary muſt challenge ſuch miſtakes before he throw his dice, otherwiſe he loſes the privilege.

To prevent diſputes which may ariſe upon occaſion of theſe challenges, and in order that the interval taken may be diſtinctly perceived, it may be adviſeable, through the whole courſe of the game, to employ two pins, and, inſtead of moving the pin which is at the ſtation, to keep it in its place, and to mark the interval preſented by the dice, by the other pin. In this way, both terms of the interval will appear upon the board at the ſame time. The pin which was laſt ſet up, if no objection is made, becomes the ſtation pin of the game; the other muſt remain in its place till the adverſary has thrown, when it ſhould be immediately removed, for the purpoſe of marking the interval, which ſhall be next preſented.

GAME

GAME III.

INTERVALS UPON THE STAVE.

PART II.

THIS part affords the ſame exerciſe upon the muſical ſtave or ſcale of notes, which the former part gives upon the clavier.

When it is played it will be proper that the claviers be covered.

The player with ſharps places in the double baſs A, one of the moveable notes or ſmall pins with round heads, found in 9th compartment, and his object, as before, is to aſcend to the higheſt note; the other

other places a note in the higheſt f, and his object is to get down to the loweſt.

The intervals of the ſame extent with thoſe preſented by the dice, are to be marked by carrying the pin along the ſcale of notes; or rather, by placing another pin of the ſame kind, in the note which is the other term of the interval; annexing or placing in the hole under the note, the moveable characters of ſharp, double ſharp, flat, double flat, according as theſe may be neceſſary for exhibiting the exact interval.

If, when the ſtation note is affected with double ſharp or double flat, an interval ſhould caſt up, to repreſent which, truly, would require an additional ſharp or flat, the player is then allowed to change the denomination, and of courſe the place of the ſtation note, to that which would be founded by the ſame key of the clavier. Thus, if the ſtation note being D𝄪, a major 3d ſhould be preſented, which muſt be F𝄪𝄪; the note D𝄪, may be changed to the correſponding note upon the clavier, E natural, when the major 3d will be G𝄪.

As

As the player with ſharps is underſtood to have the cuſtody of the characters of ſharp and double ſharp, and the player with flats to have the cuſtody of thoſe of flat and double flat, if either of them in the courſe of the game, find it neceſſary, for truly exhibiting his interval, to employ a character of the oppoſite ſpecies, he muſt borrow it of the adverſary, who in conſideration of having given him this accomodation, is entitled to advance a major 3d. He is allowed to retain the borrowed character as long as it is neceſſary for repreſenting his interval, without the lender being entitled to any additional advantage. But as ſoon as he throws an interval for which that character is not neceſſary, he muſt return it to the adverſary.

In all other reſpects the method of playing, the advantageous chances, and the forfeitures, in this part of the game, are the ſame as they are in the 1ſt part.

INTRO-

INTRODUCTION.

CHAPTER VI.

OF CHORDS.

71. INTERVALS, concordant and diſcordant, are the conſtituents of Harmony. The perfect, or common chord major, is compoſed of the major 3d and perfect 5th, to the loweſt note; to which the 8ve may be added, as C—*E* g c. (Plate VII. No. 1.) The perfect, or common chord minor, again, is compoſed of the minor 3d, and perfect 5th, with the 8ve to the loweſt note, as A—*C E* a. (Plate VII. No. 2.) That note, to which the others ſtand in the relation of 3d and perfect 5th, (in the above examples C and A,) is called the fundamental of the chord, and it bears that name, although it ſhould not, at the time, be

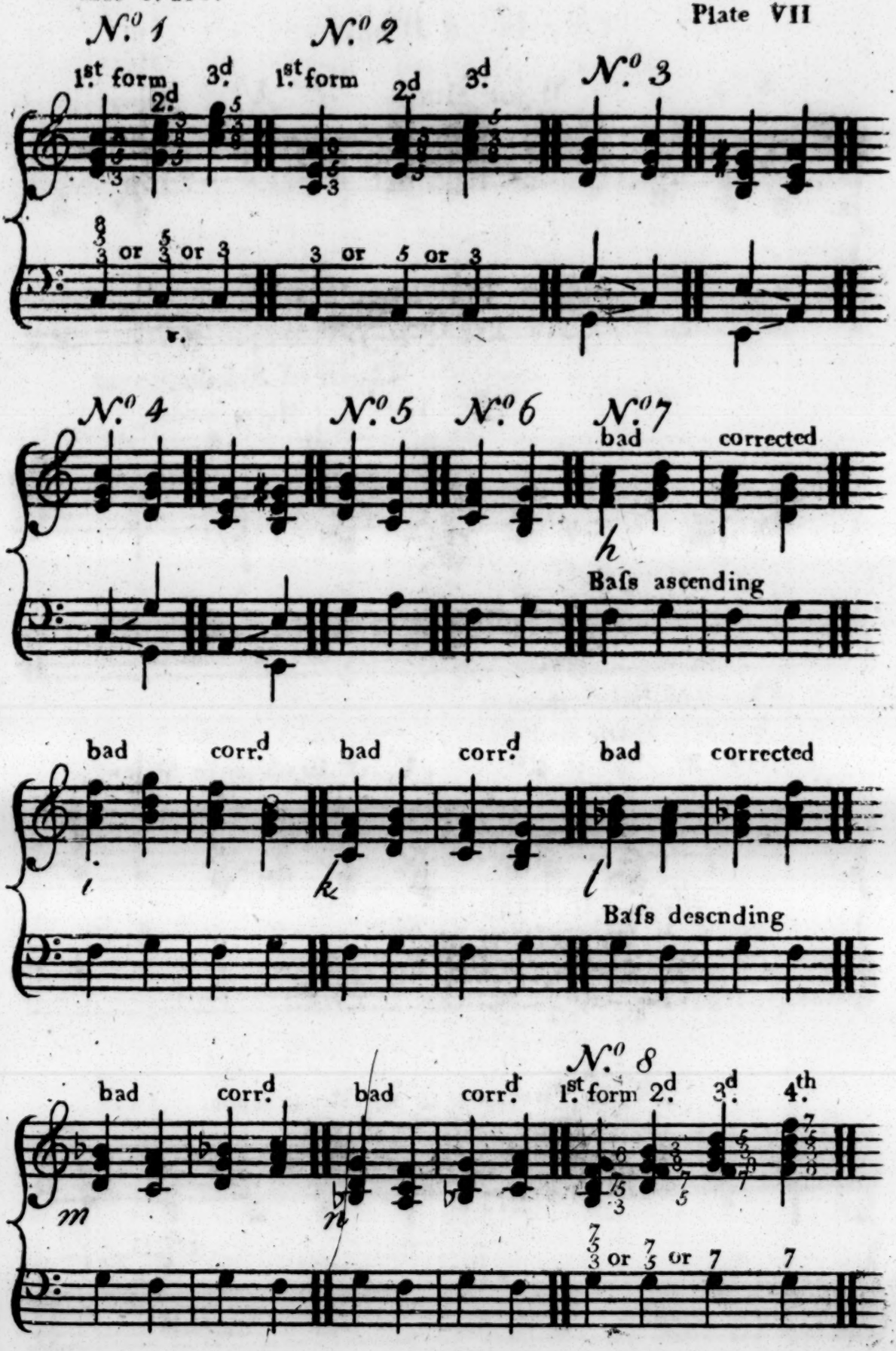
be the loweſt ſound of the combination, but exiſt among the upper notes, while ſome other note of the chord occupies the place of baſs or loweſt ſound.—The concordant intervals, or harmonics as they are called, to a fundamental, may be arranged in three different poſitions, or the chord may have three different forms, as in Plate VII. No. 1. and 2.

In the firſt of theſe, called the 1ſt form, the 8ve is the uppermoſt note; in the ſecond, or 2d form, the third is uppermoſt; and in the third, or 3d form, the 5th is the higheſt note.

72. Every degree of a ſcale may have a chord of 3d and perfect 5th, excepting the 7th in the major mode, and the 2d in the minor mode, the 5ths to which are falſe 5ths: and theſe chords take their names from the degrees of the ſcale, which are their fundamentals. Thus, the chords, of which the fundamentals are the 5th, the 4th, or the 6th, are called the chords of the 5th, the 4th, or the 6th, of the ſcale. The firſt of the ſcale, or key note, is by ſome muſicians called the *Tonic*, and its chord, the chord of the tonic. The 5th of the ſcale is called the dominant, and the 4th the ſubdominant; and their

chords

To face P. 136.

Plate VII

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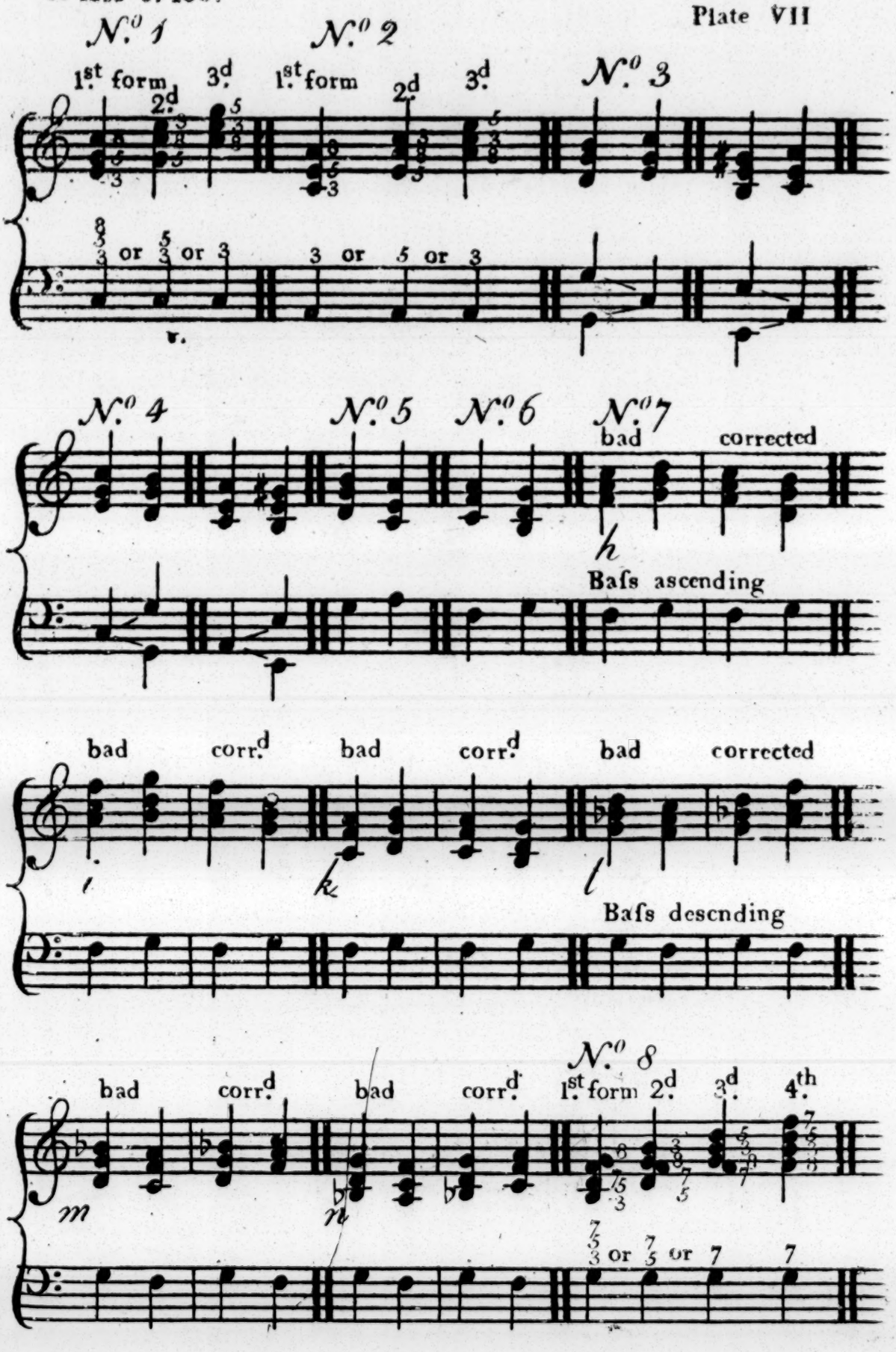
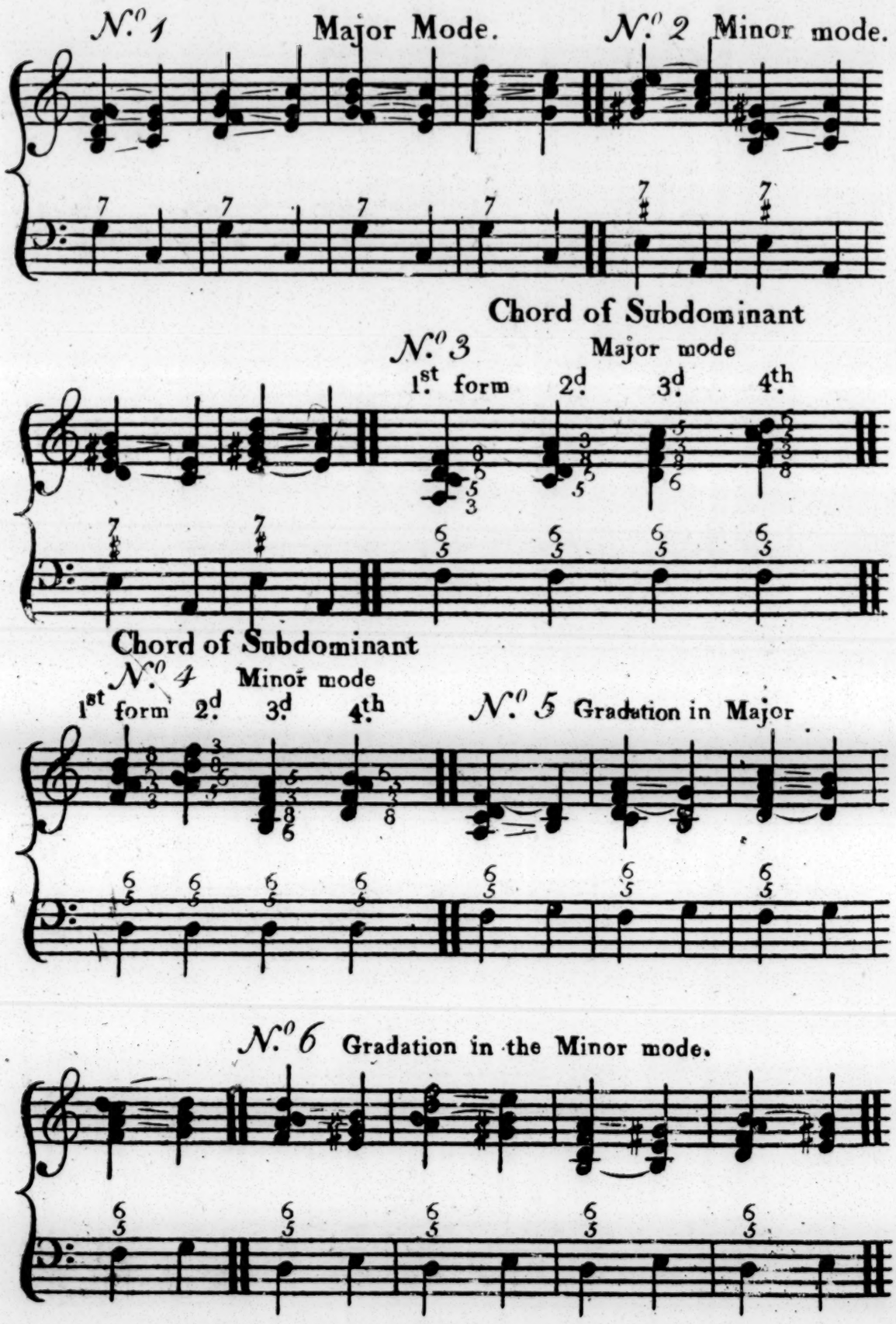
chords

To face P. 136.

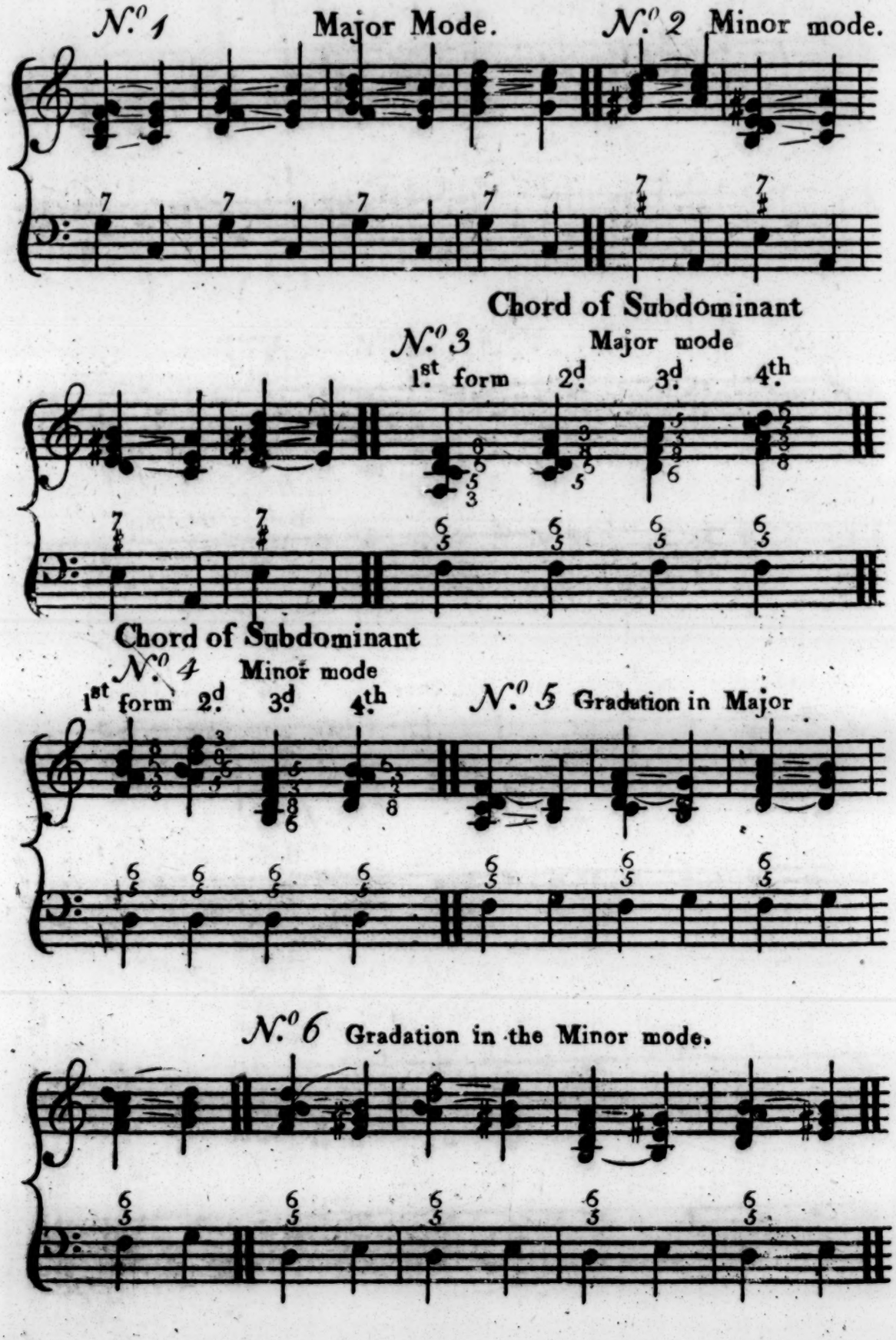
Plate VII

Chords of Dominant. Plate VIII



chords are reſpectively named accordingly. The 3d and the 6th of the ſcale, have been called the Mediants. The major 7th, (which in the minor mode is always an occaſionally ſharpened note), (59) is named the Senſible note.

73. The chord of the key or tonic, being that from which all the others proceed, and to which they all tend, will naturally occur in a piece of muſic, more frequently than any other chord, ſo long as the ſame ſcale is continued. Next to this, the chords of the 5th and the 4th will moſt frequently occur, as from them the moſt eaſy and natural tranſitions are made to the chord of the key.

74. The moſt pleaſing ſucceſſion of chords is when the baſs moves upwards or downwards, by the leap of a perfect 4th or perfect 5th, or in other words, when the fundamental of the following chord is a 4th or a 5th above or below that of the preceding chord. Such movements have been termed *Cadences*, and are the proper and natural fundamental progreſſions in muſic. The fundamental alſo moves to the 6th above, or the 3d below, and theſe movements may be reverſed. There are alſo ſome caſes in which

Chords of Dominant. Plate VIII

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the fundamental moves a 2d upwards, but it more rarely moves a 2d downwards.

75. When the fundamental of a chord is a perfect 4th above, or a perfect 5th below that of the preceding chord, the ſucceſſion is named *a regular Cadence*. This is the moſt pleaſing and ſatisfactory of all progreſſions, and is the laſt in every piece of regular muſic, forming the final cloſe. (Plate VII. No. 3.) When this movement is reverſed, or when the fundamental riſes a 5th, or falls a 4th, to that of the preceding chord, the ſucceſſion is called an *irregular Cadence*. Plate VII. No. 4.

76. The fundamental of a chord ſeldom riſes a ſingle degree, or to the 2d above that of the preceding chord, except in the two following caſes. 1ſt. The chord of dominant, or the 5th of the key, is ſometimes ſucceeded by that of the 6th. (Plate VII No. 5.) This is called the falſe, the interrupted, or diſappointing Cadence; as, when it occurs, the hearer is generally led by the ſtrain of the muſic to expect a cloſe upon the key, formed by a regular cadence, or that the chord of the 5th ſhould be ſucceded by the chord of the key, and therefore feels a diſappointment.

2dly,

2dly. The chord of the 4th may be ſucceeded by the chord of the 5th. This is called the *ſtep* or *gradation* of the 4th, and is of very frequent occurrence in muſic. Plate VII. No. 6.

The firſt chord of each of thoſe ſucceſſions may be called the *leading* or *antecedent* chord; and the other, the *following*, or *conſequent* chord.

77. In the major mode of muſic, the chords of the key, of the 4th and of the 5th, are all chords of major harmony or greater third (35); the chords of the 2d, the 3d, and the 6th, are chords of minor harmony, or leſſer 3d. In the minor mode again, the chords of the key, the 4th and 5th are minor chords; and thoſe of the 3d, 6th, and 7th, are major. When the chord of the 5th, in the minor mode, is to paſs, by a regular cadence, into the chord of the key; its harmony muſt always be rendered major, by ſharpening its third, or rendering the 7th of the ſcale a ſenſible note. Plate VII. No. 3.

78. Although every common chord has three different poſitions, all of which are equally accounted the chord; yet in playing cadences or ſucceſſions of any

any kind, it is by no means a matter of indifference in what form we take the *following* chords:—1ſt. Such a poſition of the following chord ought to be taken as that the ſeveral notes of the leading chord may paſs into thoſe of the following, either by ſingle degrees, or by ſmall leaps, ſeldom exceeding that of a 3d.—2dly. Such a poſition of the following chord ought to be taken, as that faulty progreſſions, or conſecutions of 5ths and 8ves, may be avoided. In muſic it is ſeldom allowed that two contiguous notes of one part ſhould be both 5ths, or both 8ves to the correſponding notes of another part. Such conſecutions are called impure harmony, and ought generally to be avoided, in playing ſucceſſions of chords. In particular, the higheſt notes of two contiguous chords, ſhould not be both 5ths, or both 8ves to the baſs note; and therefore two contiguous chords ought ſeldom to be taken in the ſame poſition. Impurity of harmony, or, as it is ſometimes called, *making* 5ths and 8ves, is moſt certainly avoided by making the following chord move in an oppoſite direction to the baſs note; that is, downwards, when the baſs moves upwards, and contrarywiſe. This is called *contrary motion*, and is in general the moſt pleaſing mode of playing all ſucceſſions of common chords. Examples

of

of impure harmony, on an aſcending baſs, corrected by contrary motion, may be ſeen Plate VII. No. 7. At h, the uppermoſt notes of the chords are 5ths reſpectively to the baſs notes, and the loweſt notes and 8ves to them. At i, the higheſt notes are 8ves, and the middle notes 5ths. At k, the loweſt notes are 5ths, and the middle notes 8ves. The firſt of theſe is the moſt offenſive; the laſt is the moſt tolerable, as the faulty progreſſion, being not in the extreme, but in the middle notes, does not ſo much ſtrike the ear. Other faulty progreſſions, on a deſcending baſs, may be ſeen corrected at l, m, n, of the above example.

79. When a regular cadence, or cloſe, is to be made upon the key note, the progreſſion of the harmony is rendered more ſtriking, and the cloſe more ſatisfactory and compleat, by adding to the chord of the 5th, or leading chord of the cadence, the note which is minor 7th to its fundamental. Thus, the regular cadence upon C, is rendered more ſtriking and ſatisfactory when the leading chord, or chord of G, has its minor 7th, that is, f, the 4th degree of the ſcale added to it, or inſerted among its other intervals, and ſounded along with them. The chord

will

will then conſiſt of the following notes, viz. The fundamental G, its major 3d *B*, its perfect 5th *D*, and 7th f, to which the 8ve g, may be added.

80. When we examine the relation which the added 7th, (f) bears to the other notes of the chord, we find that it is a falſe 5th to the 3d *B*, a minor 3d to the 5th *D*; the 8ve, (g) is a major 2d to it, the third above the 8ve (b), is a tritone, and laſtly, the 5th above the 8ve is a major 6th to it. The 7th may be added to the chord, when ſtanding in any of its three poſitions. Hence the chord may be arranged in four different poſitions, as at Plate VII. No. 8. In the firſt and fourth of theſe poſitions, the 3d and 7th of the chord, *B* and f, ſtand to one another at the interval of falſe 5ths; in the other two poſitions they are at the interval of tritone. This chord is named by ſome authors, the diſcordant harmony of the dominant.

81. When this chord paſſes into the chord of the key, the lower term of the falſe 5th, and upper term of the tritone, being each the ſenſible note of the ſcale (72) muſt riſe a ſemitone to the key note; the upper term of the falſe 5th, and lower term of the tritone, being

being each the 4th of the ſcale, muſt deſcend to the 3d of the ſcale, by the ſtep of a *ſemitone*, if the harmony of the tonic is *major*, or by that of a *tone* if it is *minor*. By theſe movements, which have been called the *neceſſary movements*, the diſcord of falſe 5th is ſaid to be *reſolved* into 3d; and that of tritone into 6th.—The diſcords of 7th and 2d, are at the ſame time reſolved, the former into 6th, and the latter into 3d. The 8ve to the fundamental of the chord of dominant, being the 5th of the ſcale, and therefore common to the chords of the dominant and of the key, will *hold* or be continued from the one to the other. Laſtly, the 5th of the fundamental of the dominant chord, which is the 2d of the ſcale, may either fall to the key note, or riſe to the 3d: in the former caſe, it meets, or becomes uniſon with the aſcending ſenſible note; in the latter caſes, it meets with the deſcending 4th. An example of the reſolution of the chord of the 5th with 7th added, in all its different forms, into the chord of the key, is given in the major mode of C, and in the minor of A, in Plate VIII. Nos. 1. and 2. in which the progreſſion of the ſeveral notes of the chord of 5th, into thoſe of the key, is marked by lines.

82.

82. The chord of 4th, or ſubdominant, whether in the major or the minor mode, may have the 6th to its fundamental added. This 6th, which is always major, is the 2d of the ſcale. It may be added to the chord when ſtanding in any of its three poſitions. Hence the chord may have four different poſitions, or arrangements of its notes, as ſhewn at Plate VIII. No. 3. in the chord of F, the 4th of the major ſcale of C. It has been called the diſcordant harmony of the ſubdominant.

83. The only diſcording interval which appears in this chord, is that of major 2d, ſubſiſting betwixt the 5th of the chord and the added 6th, or *C* and *D*, the key and 2d of the ſcale. This diſcord of 2d is in the 3d poſition of the chord, inverted into a minor 7th. If now, *D*, the loweſt note of that poſition, be conſidered as the fundamental of the chord, the intervals to it will be f. minor 3d; a, perfect 5th; and c, a minor 7th.—This chord therefore may be conſidered as having two fundamentals; as two of its notes have a 3d, and perfect 5th among its intervals. Theſe are the 4th of the ſcale, in which the diſcord is the added 6th; and the 2d of the ſcale, in which the diſcord is an added 7th. To this laſt, the term ſubdominant,

dominant chord, has by ſome authors been appropriated; and it has been called the minor chord of the 7th; as the dominant chord, above treated of, has been named the major chord of the 7th.

84. At Plate VIII. No. 4. are ſhewn the different poſitions of a chord of 4th, with added 6th, in the minor mode, the fundamental of which is D, the 4th of the minor ſcale of A. Here, beſides the diſcord of the 2d, or its inverſion the 7th, ſubſiſting between the 5th and the added note of the chord, or the tonic and 2d of the ſcale, we find the diſcord of tritone, or its inverſion the falſe 5th, ſubſiſting between f and b, the minor 3d and added 6th of the chord, which notes are reſpectively the minor 6th and 2d of the ſcale. The third poſition has the form of a chord of 3d, 5th, and 7th, to the loweſt note *B*. And accordingly this note, the 2d of the ſcale, has by ſome muſicians been accounted the fundamental of the ſub-dominant chord, in the minor as well as in the major mode, although not with equal propriety, as the 5th is not perfect.

85. When the chord of the 4th, with added 6th, paſſes into the chord of the 5th, which is its moſt

uſual and natural progreſſion, its 5th, the key note, falls a ſemitone to the ſenſible note, or the 3d to the ſucceeding chord; while the added 6th remains, and becomes 5th of the ſucceeding chord. The diſcord of 2d or 7th, which ſubſiſted betwixt theſe notes, is thus reſolved. The 3d of the leading chord may either fall to the 8ve of the ſucceeding chord, or riſe to its 3d. The 8ve of the leading chord moſt properly falls to the 5th of the ſucceeding chord. Thoſe progreſſions are ſhewn, both in the major and in the minor mode, at Plate VIII. Nos. 5. and 6.

§ 86. When the chord of the 5th, ſucceeding the chord of the 4th, with added 6th, has its 7th added; two of the notes of the chord of 4th, viz. the 6th and 8th, are continued, and become reſpectively 5th and 7th in the ſucceeding chord. The other two notes of the chord of 4th, move each diatonically downwards, or to the next degrees of the ſcale below. Theſe progreſſions are ſeen in the preludes, or muſical phraſes, at Plate XI. No. 3, 4, and latter diviſion of No. 5. Notes which are thus held or continued from one chord to another, are called *ties* or *bindings*.

CHAP.

CHAPTER VII.

OF CYPHERING, AND THE INVERSIONS OF CHORDS.

87. WHEN a performer upon a keyed inſtrument plays the baſs of a piece of muſic, with his left hand, and as he goes along, ſtrikes, with his right hand, the proper chords or harmonics of the ſeveral notes; he is ſaid to play a *thorough baſs*, or to *accompany*. When the baſs notes are the fundamentals of the chords, and the chords are common or perfect, they may be eaſily found out, and founded upon any part of the inſtrument (71). When the compoſer intends that a 6th ſhould be added to the chord of the 4th, or a 7th to the chord of the 5th of the ſcale, it is neceſſary, that intimation of this be given to the performer

former of thorough baſs; and this is done by placing numeral figures over the baſs notes, to the chords of which the diſcording notes are to be added, as ſeen at Plate VII. No. 8. and Plate VIII. No. 3.

88. The Baſs cannot always be confined to ſound the fundamental notes of the chords. In order that it may have that air and variety which are neceſſary to render it a melodious *part* in muſic; it muſt often ſound the other notes of the chords, as the 3d, 5th, &c. It is neceſſary that the performer of thorough baſs have notice of this alſo, and be enabled to diſcover the fundamentals of the ſeveral chords, and in what manner they are to be played: and this is effected, in like manner, by placing figures over the notes. When the baſs note is the fundamental of the chord, that chord is ſaid to be *erect*. When the baſs, in place of the fundamental, takes another note of the chord, that chord is ſaid to be *inverted*, or to be an *inverſion* of the chord of the fmndamental.

89. The figures placed over baſs notes for the above purpoſes, expreſs muſical intervals, and are always to be reckoned upwards from the baſs note or its 8ves. The notes indicated by the figures are generally

erally to be taken as they ſtand in the particular ſcale or key in which the muſic is compoſed. When they are to be taken differently, as ſharp, flat, or natural, this is intimated by placing the characters ♯, ♭, or ♮, before or alongſide of the figure. When the characters ♯, ♭, or ♮, ſtand over a baſs note without any figure beſide them, they are always to be underſtood as directing the performer to take the *third* to that note, ſharp, flat, or natural. A ſharpened 6th is often marked by a ſmall daſh acroſs the upper part of the figure: a ſharpened 4th and 2d are denoted in like manner, by continuing the horizontal line of the figure a little to the right hand, and croſſing it with a ſmall upright line. When a figure comes after another upon the ſame note, the intervals marked are to be played in ſucceſſion. When a perfect common chord, or a chord with added diſcords, is to be played to a baſs note, the note which is perfect 5th to the baſs note muſt be taken, although it ſhould neither belong to the ſcale, nor be marked in the cypher.

90. The common chord may be denoted by $\frac{8}{5}_{3}$, theſe being the intervals of which it is compoſed. It is often marked by any one of theſe figures ſingly; but

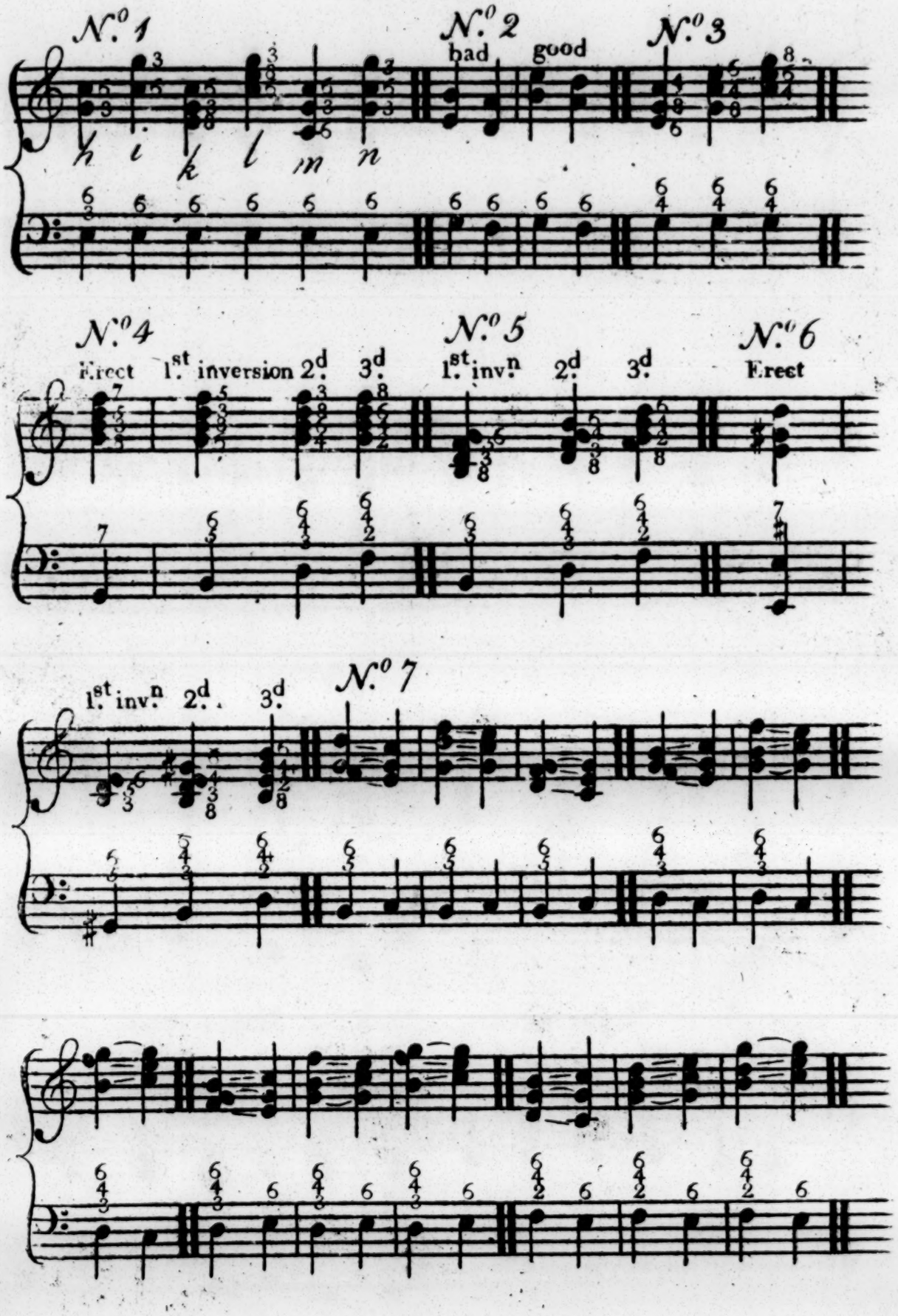
but more uſually by $\frac{5}{3}$. Moſt commonly, however, notes, which are to have common chords, have no figure at all placed over them, unleſs ſome other chord has been played, or is afterwards to be played, to the ſame note. And hence it is general rule, that *common chords are to be played to ſuch notes as have no figures over them.*

91. When a 6th is added to the common chord of a note, it is ſignified by placing $\frac{6}{5}$ over that note. When a 7th is to be added to the common chord of a note, it is ſignified by placing the figure 7 over it. Frequently, however, one or both of the other intervals are likewiſe expreſſed.

92. There are two inverſions of the common chord. 1ſt. The 3d of the chord may be brought down to the baſs; or the baſs note, in place of being the fundamental of the chord which is to be played to it, may be the 3d of that chord; while the 5th and the 8ve form the chord, or upper parts of the harmony. Thus E, the 3d of the chord of C, may be the baſs note, while the 5th and 8ve, g, c, form the chord. (Plate IX. No. 1. h, and i). In this chord the 5th of the fundamental is 3d to the baſs note,

and

To face P. 150.

Inversions.

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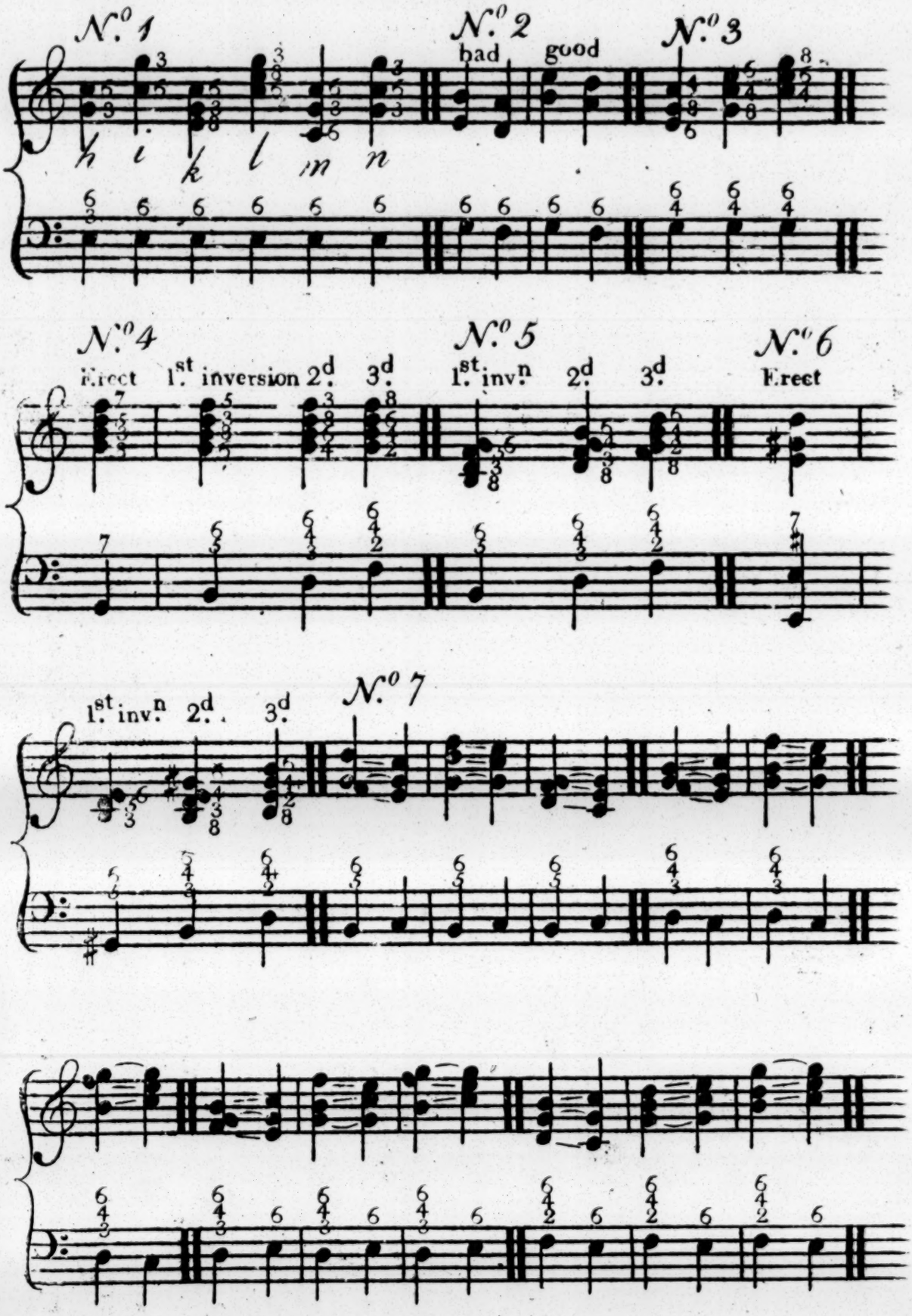
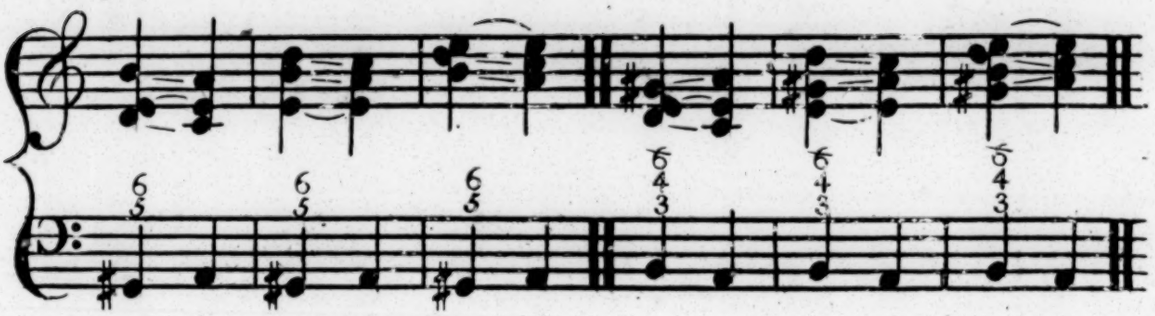
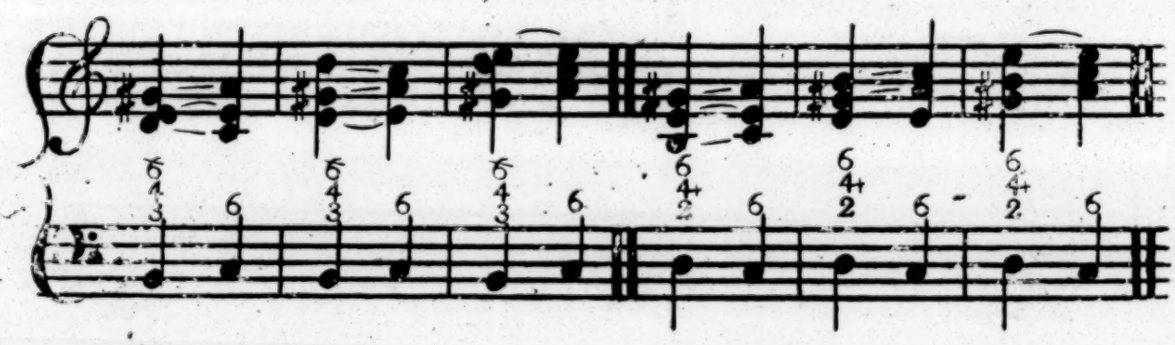
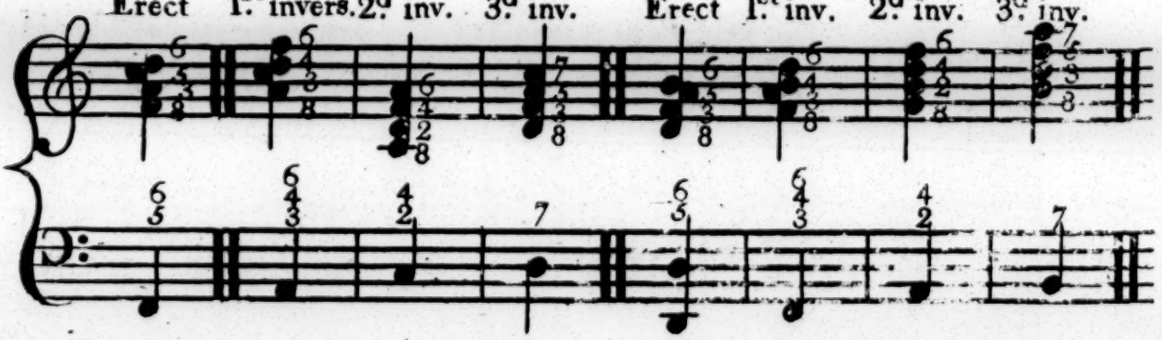

N.o 1
h i k l m n
N.o 2
bad
good
N.o 3
N.o 4
Erect
1.st inversion
2.d
3.d
N.o 5
1.st inv.n
2.d
3.d
N.o 6
Erect
1.st inv.n
2.d
3.d
N.o 7

N.o 1.

N.o 2

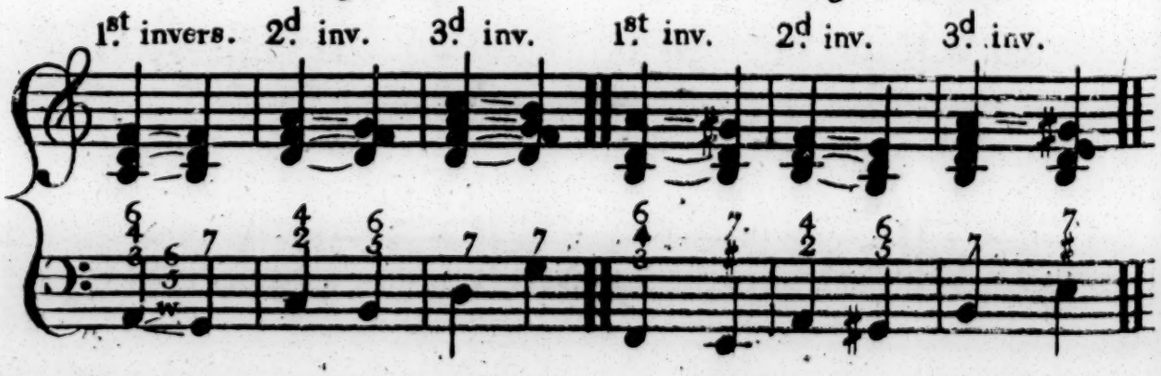
Erect 1.st invers. 2.d inv. 3.d inv.

N.o 3

Erect 1.st inv. 2.d inv. 3.d inv.

N.o 4 Major mode.

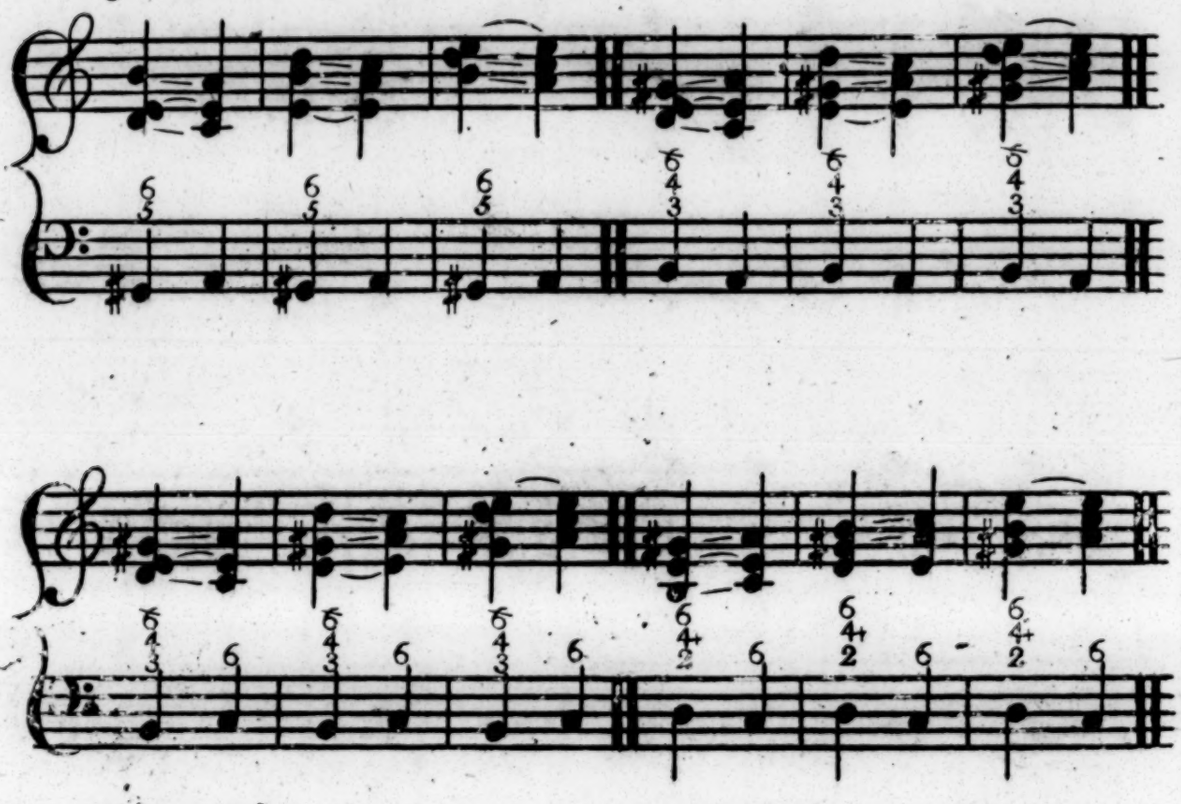
1.st invers. 2.d inv. 3.d inv.

N.o 5 Major mode.

1.st inv. 2.d inv. 3.d inv.

and the 8ve to the fundamental is 6th to the baſs note. The intervals to the baſs note, therefore, are 3d and 6th; and it is called the chord of 6th. It is cyphered $\frac{6}{3}$; moſt commonly, however, it is denoted by the ſingle figure 6; and it is a rule in muſic, that when the figure 6 ſtands alone, over a baſs note, the the 3d to that note is to be played along with the 6th. The 8ve to the baſs note may be taken into this chord, as the loweſt or middle note, or the 1ſt and 3d forms of the common chord, may be played to a chord of 6th, as at k, l, ; but the 8ve to the baſs note is ſeldom taken as the uppermoſt note of the chord, or the 2d form of the common chord uſed, unleſs for the purpoſe of reſolving a diſcord, or favouring a contrary motion. It is generally, however, accounted more elegant to omit the 8ve to the baſs note altogether, in playing chords of 6th; and either to take them as at h, i, or when a third note is wanted for the chord, to add the 8ve to one of the other notes, as at m, n. When chords of 6th are to be played to two or more baſs notes, aſcending or deſcending diatonically, or by the degrees of the ſcale, the forms at i, l, and n, are never to be uſed, as two notes of the chord would then proceed by 5ths, or

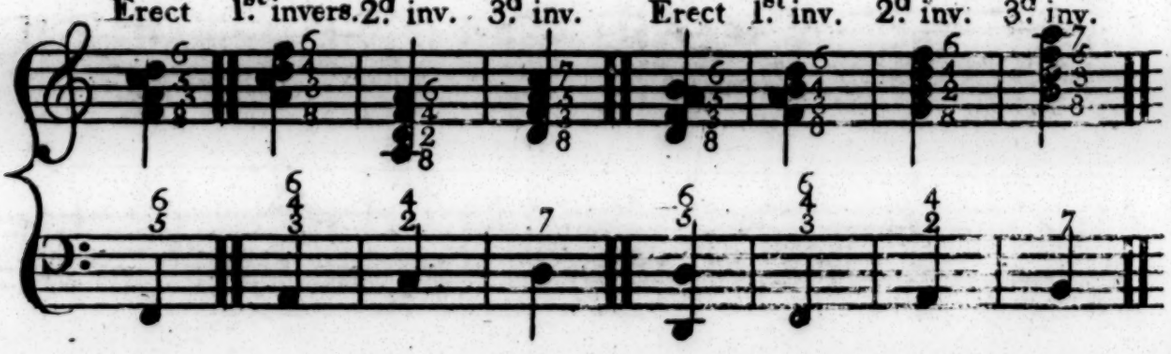
the

Inversions

N.o 1.

N.o 2

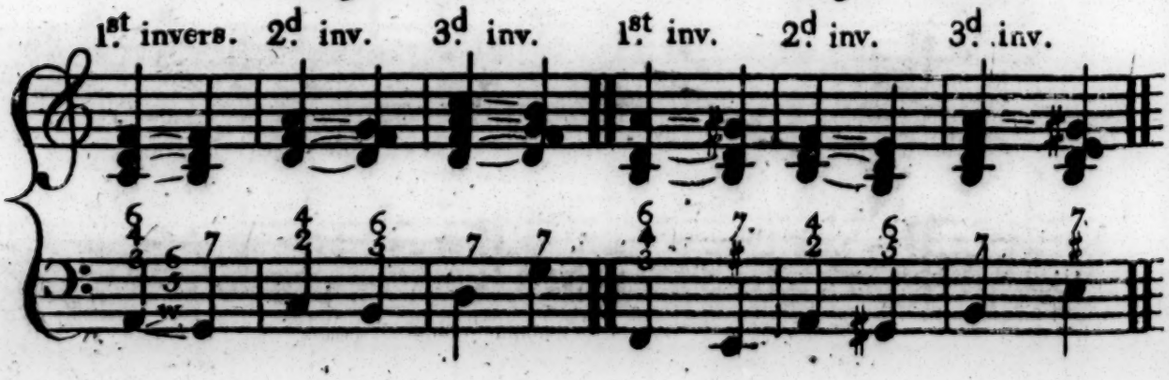
Erect 1.st invers. 2.d inv. 3.d inv.

N.o 3

Erect 1.st inv. 2.d inv. 3.d inv.

N.o 4 Major mode.

1.st invers. 2.d inv. 3.d inv.

N.o 5 Major mode.

1.st inv. 2.d inv. 3.d inv.

and the 8ve to the fundamental is 6th to the baſs note. The intervals to the baſs note, therefore, are 3d and 6th; and it is called the chord of 6th. It is cyphered $\frac{6}{3}$; moſt commonly, however, it is denoted by the ſingle figure 6; and it is a rule in muſic, that when the figure 6 ſtands alone, over a baſs note, the the 3d to that note is to be played along with the 6th. The 8ve to the baſs note may be taken into this chord, as the loweſt or middle note, or the 1ſt and 3d forms of the common chord, may be played to a chord of 6th, as at k, l, ; but the 8ve to the baſs note is ſeldom taken as the uppermoſt note of the chord, or the 2d form of the common chord uſed, unleſs for the purpoſe of reſolving a diſcord, or favouring a contrary motion. It is generally, however, accounted more elegant to omit the 8ve to the baſs note altogether, in playing chords of 6th; and either to take them as at h, i, or when a third note is wanted for the chord, to add the 8ve to one of the other notes, as at m, n. When chords of 6th are to be played to two or more baſs notes, aſcending or deſcending diatonically, or by the degrees of the ſcale, the forms at i, l, and n, are never to be uſed, as two notes of the chord would then proceed by 5ths, or

the

the harmony would be impure (78). Plate IX. No. 2.

93. 2dly. The 5th of the common chord may be made the baſs note, as when the chord of C is to be played, the baſs note may be G, the 5th of the chord. Here the 8ve to the fundamental is perfect 4th to the baſs note, and the 3d to the fundamental is major or minor 6th to the baſs note, according as the erect chord is major or minor harmony. It is hence called the chord of the 6th and 4th, and is always cyphered $\frac{6}{4}$. In playing it, the 8ve to the baſs note may always be taken into the chord, or the compleat chord may be ſtruck in all the three forms. Plate IX. No. 3.

94. The chord of the 5th, with added 7th, may have three inverſions, as either the 3d, or the 5th, or the 7th of the chord may be made the baſs note. Theſe inverted chords may be eaſily underſtood, from the explanations given above of the inverſions of the common chord. The erect chord and the three inverted chords, with the intervals of the ſeveral notes of the chord to the different baſs notes, are ſhewn, both in the major mode of C, and in the minor

nor mode of A, at Plate IX. No. 4. No. 5. and No. 6. In the two laſt the notes of the chords are ſo arranged as to ſhow the intervals proceeding in order upwards, from the 8ve to the baſs note. Each of theſe inverted chords may be reſolved into the chord of the tonic or key, and theſe progreſſions are conſidered as regular cadences, from the movement of the fundamental baſs. Whichever note of the chord happens to be in the baſs, it muſt paſs into the chord of the key, by the very ſame ſtep as if it had exiſted in the chord or upper parts.

95. 1ſt Inverſion.—The baſs note is the 3d to the fundamental, and ſenſible note of the ſcale. The intervals to the baſs note are minor 3d, falſe 5th, and minor 6th, which are reſpectively 5th, 7th, and 8ve, to the fundamental, and 2d, 4th, and 5th, of the ſcale. It is named the chord of the falſe 5th, or of the ſenſible note, and is commonly cyphered $\frac{6}{5}$. The baſs note, being one of thoſe intervals of the dominant chord which have a regular and invariable progreſſion, in the reſolution of the diſcord (81), muſt riſe a ſemitone to the key note and fundamental of the reſolving chord, whilſt the 5th deſcends to the 3d of the ſcale, or of the reſolving chord. The

3d to the baſs note either falls to the key, or riſes to its third; and the 6th to the baſs note is continued, and becomes 5th of the reſolving chord. If the 8ve to the baſs note of this chord is added, it can only ſtand at the bottom, or in the middle of the chord, It muſt *never* ſtand as the higheſt note, as that would occaſion a very diſagreeable conſecution of 8ves, in the reſolution.

96. 2d Inverſion.—The baſs note, the 5th to the fundamental, and 2d of the ſcale. The intervals to the baſs note are minor 3d, perfect 4th, and major 6th, which are reſpectively 7th, 8ve, and 3d to the fundamental, and 4th, 5th, and ſenſible note of the ſcale. It is uſually called the chord of major 6th, and is cyphered $\frac{6}{4}_{3}$. The diſcord of tritone, or falſe 5th, ſubſiſts between the 3d and 6th to the baſs note, which is duly reſolved by the 6th to the baſs note riſing a ſemitone to the key, while the 3d to the baſs note falls a degree to the 3d of the ſcale. The 4th to the baſs note holds. The baſs note itſelf, being the interval of the dominant chord, which has a choice of movement (81), may either fall to the fundamental of the reſolving chord, or riſe to its 3d, in which caſe it will have a chord of 6th. The

8ve

8ve to the baſs note of this chord may be occaſionally added, and it may even ſtand in the higheſt place.

97. 3d Inverſion.—The baſs, the added 7th to the fundamental, and 4th of the ſcale. The intervals to the baſs note are major 2d, tritone, and major 6th, which are reſpectively 8ve, 3d, and 5th to the fundamental, and 5th, ſenſible note, and 2d of the ſcale. It is called the chord of the tritone, and cyphered by its intervals $\frac{6}{4}$, ſometimes $\frac{4}{2}$. The baſs note, being the loweſt term of the tritone, and one of the notes which have a determined progreſſion, muſt fall a degree of the ſcale to the third of the key, while the upper term of the tritone riſes a ſemitone. The 2d to the baſs note holds, and the 6th to the baſs note falls or riſes. The reſolving chord, being the chord of the key played to its third as a baſs note, is evidently the firſt inverſion of the common chord, or chord of 6th (92). As the 8ve to the baſs note is ſeldom or never taken, the three notes which are ſtruck by the right hand are thoſe which compoſe the perfect common chord, with major 3d to the 5th of the ſcale, or to the major 2d of the baſs note, and therefore may be eaſily found in every key.

98.

98. Although the 8ve to the baſs note may, with certain precautions, be taken in the 1ſt and 2d inverſions of the dominant chord; yet, unleſs when a forcible expreſſion is wanted, (in which caſe performers will ſometimes ſtrike all the intervals of a chord which they can graſp with both their hands), it is generally thought more correct and elegant to omit it altogether. The chords ſtruck by the right hand will then conſiſt of three notes, each of which is a different degree of the ſcale from the baſs note: and they may be played in any of the three forms or poſitions, in which their component notes can be arranged. Theſe poſitions, with their ſeveral reſolutions into the chord of the key, are ſhewn, both in the major mode of C, and the minor of A, in Plate IX. No. 7. and Plate X. No. 1. with which the explanations in the three laſt paragraphs may be compared. The ſecond reſolution of the chord of tritone, in which the uppermoſt note of the reſolving chord is 8ve to the baſs note, although a tranſgreſſion of the common rule, relative to chords of 6th (92), may, in this caſe, be practiſed without ſcruple, as it gives an agreeable contrary motion, and as it is often the real progreſſion of the parts in muſic.

99.

99. The ſubdominant chord, or the chord of the 4th of the ſcale, with added 6th, may have alſo three inverſions, as either the 3d of the chord, or the 5th, or the 6th may be made the baſs note. Theſe inverted chords with their cyphers, and the intervals of the notes to the different baſs notes, are ſhewn in Plate X. Nos. 2. & 3. When theſe chords paſs by gradation into the chord of the 5th of the ſcale, the ſeveral notes ought, in general, to move into the notes of the ſucceeding chord, by the progreſſions which were explained in 85.

100. 1ſt Inverſion.—Baſs note, the 3d to the fundamental, and 6th of the ſcale. The intervals to the baſs note, in the major mode, are minor 3d, perfect 4th, and minor 6th; which are reſpectively the 5th, 6th, and 8ve, to the fundamental, and key note, 2d and 4th of the ſcale. The chord is ſometimes called the chord of little 6th. The intervals to the baſs note, in the minor mode, are major 3d, tritone, and major 6th. It is cyphered $\frac{6}{4}$. The 4th, or added note of the chord, is frequently omitted, and the chord then becomes the 1ſt inverſion of the perfect chord of the 4th.—When it paſſes into the chord of the 5th, the baſs note falls a degree to the fundamental

tal of the ſucceeding chord. In the major mode the baſs may alſo riſe to the 3d of the ſucceeding chord, or the ſenſible note. That however cannot be ſo well done in the minor mode, as to arrive at the ſenſible note of that mode, the baſs note (the minor 6th) muſt move by an unmelodious ſtep of an augmented 2d; and therefore when that progreſſion of the baſs is wanted, it is uſual to ſharpen the 6th. The 3d falls a ſemitone—the 4th holds; the 6th properly riſes if the baſs falls, and falls if the baſs riſes. If the chord of the 5th is to have its 7th, the 6th holds. Plate X. Nos. 4. and 5.

101. 2d Inverſion.—Baſs note, the 5th to the fundamental, and key note of the ſcale. The intervals to the baſs note are, in the major mode, major 2d, perfect 4th, and major 6th; in the minor mode, major 2d, perfect 4th, and minor 6th. It is named chord of 2d, or of 2d and 4th, and is cyphered $\frac{6}{4}$, $\frac{4}{2}$, or 2. In paſſing to the chord of dominant, the baſs note muſt fall a ſemitone to the ſenſible note; the 2d holds; the 4th riſes a tone, or falls a minor third, or holds; the 6th moſt properly falls a degree. The 8ve to the baſs note is ſeldom or never taken in this chord. The three notes ſtruck by the right hand, are

are thoſe which compoſe the triad of the 2d of the ſcale. This, in the major mode, is a perfect minor triad, or chord of minor 3d and perfect 5th; in the minor mode, it is an imperfect triad of minor 3d and falſe 5th. Plate X. Nos. 4. and 5.

102. 3d Inverſion.—Baſs note, the added 6th to the fundamental, and 2d of the ſcale. The other notes of the chord are the 4th, 6th, and 8ve of the ſcale, which to the baſs note are minor 3d, perfect 5th, and minor 7th, in the major mode; and minor 3d, falſe 5th, and minor 7th, in the minor mode. It is moſt uſually cyphered 7. When this chord paſſes into the chord of the 5th, the baſs note commonly proceeds to the fundamental of that chord, by the ſtep of regular cadence, that is, by moving a 4th upwards, or a 5th downwards. The 8ve to the baſs note may be taken in playing this chord, more eſpecially when the ſucceeding chord of the 5th is to have its 7th. In this caſe, the 8ve and 3d of the chord hold, while the other two notes deſcend diatonically (86). Plate X. Nos. 4. and 5.

103. The chords explained in this and the preceding Chapter, are of the moſt extenſive uſe and application

cation in muſic. There are many muſical compoſitions in which no others occur; and perhaps there are few real chords in muſic, which are not either perfect chords, or to be referred to the claſs of dominant or of ſubdominant chords, although they may be diſguiſed by ſuſpending or altering one or more of the notes. It is of great importance, therefore, that they be well underſtood and diligently practiſed in every key, major and minor. There are two kinds of leſſons or exerciſes, which are frequently preſcribed for this purpoſe. The firſt is to play certain ſhort harmonical ſucceſſions, or muſical phraſes, which are ſometimes named Cadences, and which are often uſed as preludes, for the purpoſe of announcing the key and mode of the piece which is to be performed. The ſecond is to play the chords or accompaniments which are moſt commonly given to baſs notes, when they aſcend or deſcend diatonically, or by the degrees of the ſcale. In the firſt, the chords are commonly in their erect forms; in the ſecond, ſome of them muſt neceſſarily be in inverted forms.

PRELUDES OR CADENCES.

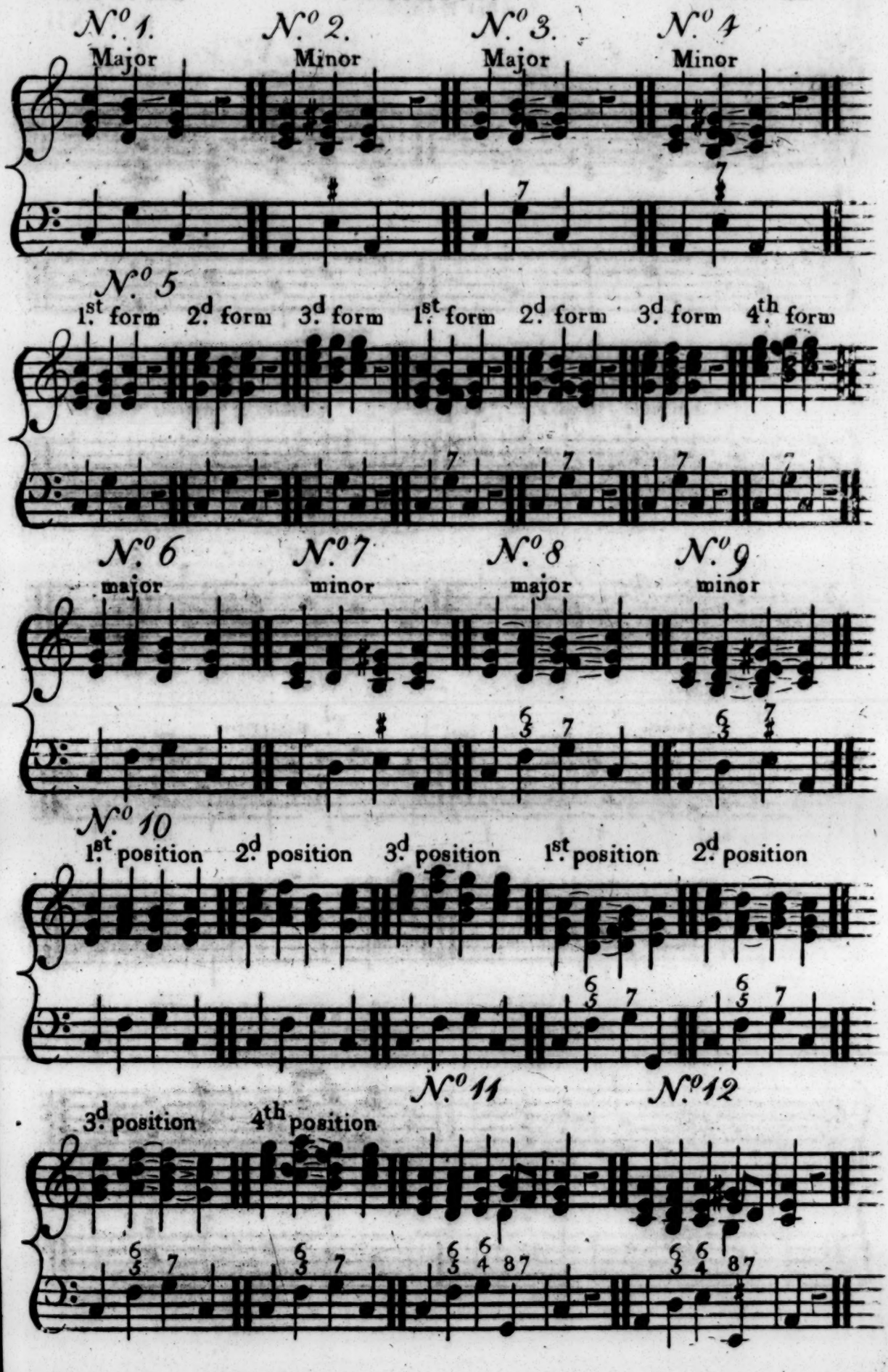
104. The ſhorteſt harmonical ſucceſſion, or muſical phraſe, which can be conſidered as compleat in itſelf, or having a proper beginning, middle, and end, is ſhown at Plate XI. No. 1. in the major of C, and at No. 2. in the minor of A. This conſiſts of the chord of the key proceeding, by irregular cadence, to the chord of the 5th, and that again returning by regular cadence to the chord of the key. The chord of the 5th may either be perfect, as at Nos. 1. and 2. or, to render the final cloſe more ſtriking and ſatisfactory, its 7th may be added, as at Nos. 3. and 4. This phraſe may be practiſed in both ways in all the different poſitions of the chords, and in all the keys, both of the major and minor mode, according to the model ſhewn Plate XI. No. 5.

105. In the next phraſe, Plate XI. Nos. 6. and 7. the chord of the 4th is inſerted betwixt the chords of the key and of the 5th. In playing this phraſe, the chords of the 4th and 5th may be either perfect, as in Nos. 6. and 7., or they may have their added

notes, as at Nos. 8. and 9. It may be alſo proper to practiſe it, in both theſe ways, in all poſitions, and in all keys. A model of this exerciſe is ſhewn at Plate XI. No. 10.

106. In the next muſical phraſe, or form of a cadence, Plate XI. No. 11. and No. 12. the chord of the 5th, following in gradation the chord of the 4th, is held off or ſuſpended by a chord of 6th and 4th, to the 5th as a baſs note: in other words, the baſs, 5th of the ſcale, does not immediately get its own chord, but the chord of $\frac{6}{4}$, or ſecond inverſion of the chord of tonic, which afterwards proceeds to the proper chord of the 5th, the baſs note holding, or falling an 8ve. In this ſituation, the chord may be firſt ſtruck perfect, and the 8ve may be made to deſcend to the 7th, leading to the 3d of the reſolving chord, and preparing the cloſe. This is cyphered by 8, 7, or 8ve, followed by 7th. This progreſſion is called the 6th and 4th cadence, and is of very frequent occurrence. It ſhould alſo be practiſed in all poſitions, and in all keys, which it may be preſumed the learner may now be able to do, without having a model for the different poſitions.

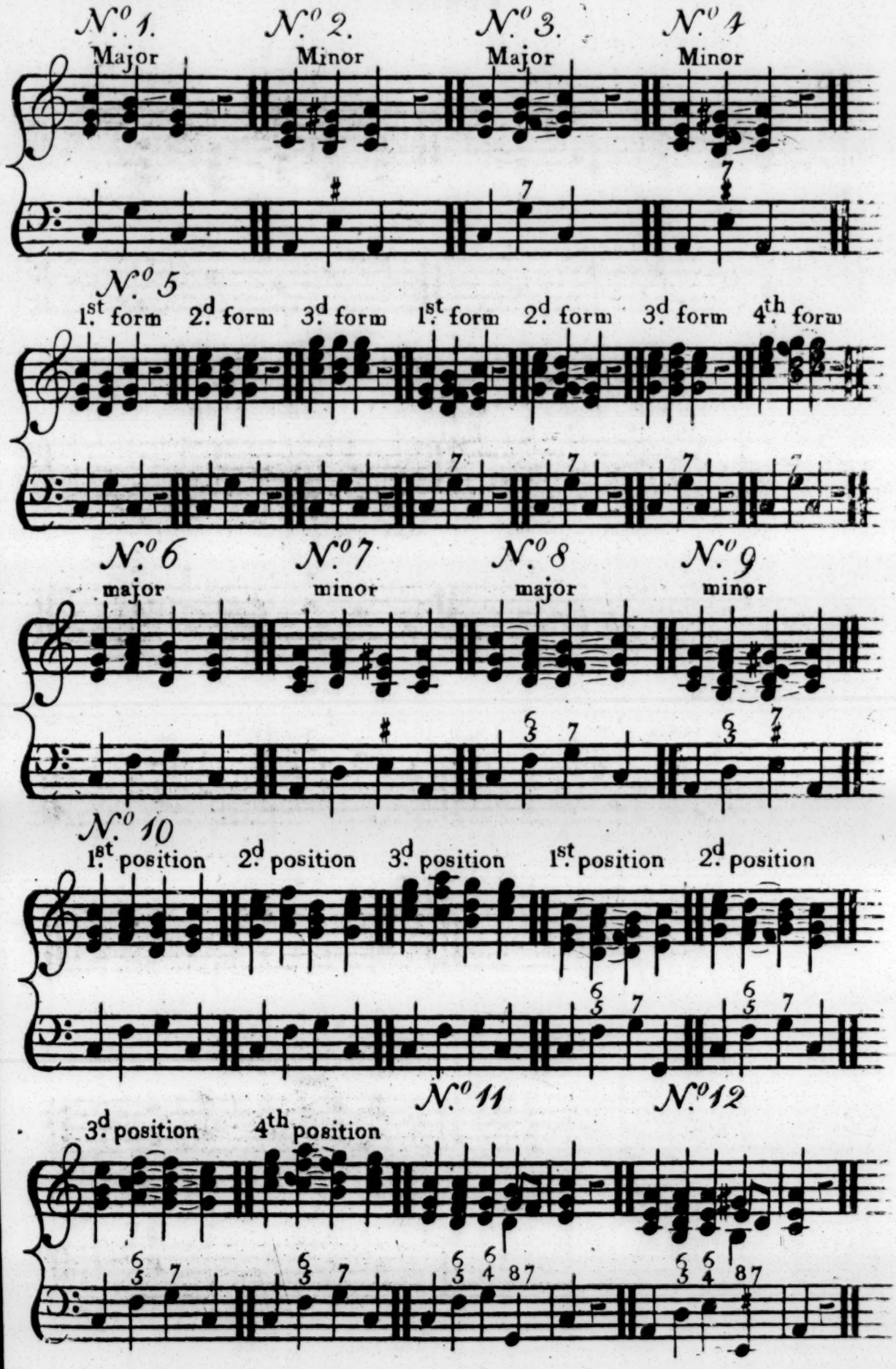
Cadences.


N.o 1.
Major
N.o 2.
Minor
N.o 3.
Major
N.o 4
Minor
N.o 5
1.st form
2.d form
3.d form
1.st form
2.d form
3.d form
4.th form
N.o 6
major
N.o 7
minor
N.o 8
major
N.o 9
minor
N.o 10
1.st position
2.d position
3.d position
1.st position
2.d position
N.o 11
N.o 12
3.d position
4.th position

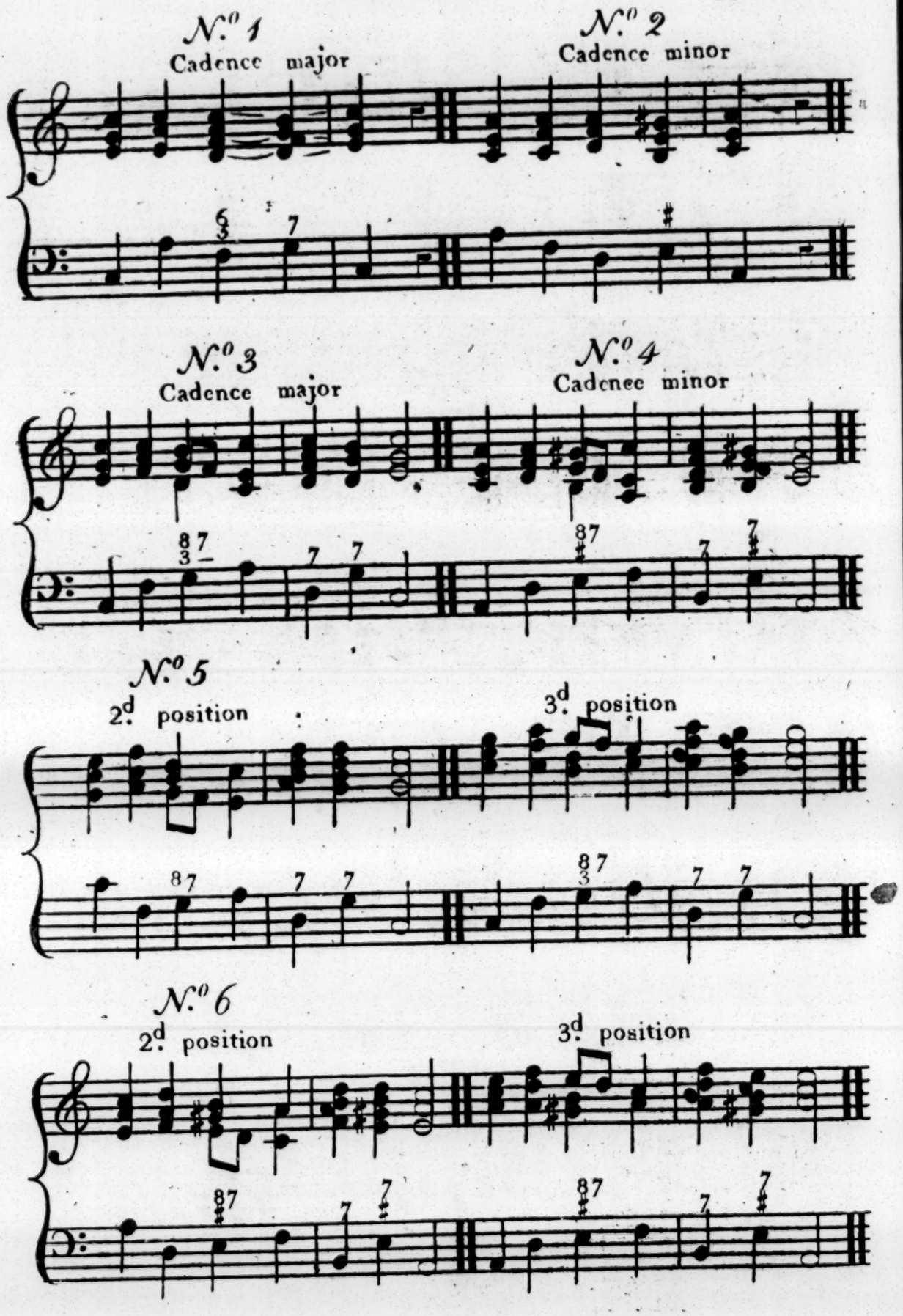
notes, as at Nos. 8. and 9. It may be alſo proper to practiſe it, in both theſe ways, in all poſitions, and in all keys. A model of this exerciſe is ſhewn at Plate XI. No. 10.

106. In the next muſical phraſe, or form of a cadence, Plate XI. No. 11. and No. 12. the chord of the 5th, following in gradation the chord of the 4th, is held off or ſuſpended by a chord of 6th and 4th, to the 5th as a baſs note: in other words, the baſs, 5th of the ſcale, does not immediately get its own chord, but the chord of $\frac{6}{4}$, or ſecond inverſion of the chord of tonic, which afterwards proceeds to the proper chord of the 5th, the baſs note holding, or falling an 8ve. In this ſituation, the chord may be firſt ſtruck perfect, and the 8ve may be made to deſcend to the 7th, leading to the 3d of the reſolving chord, and preparing the cloſe. This is cyphered by 8, 7, or 8ve, followed by 7th. This progreſſion is called the 6th and 4th cadence, and is of very frequent occurrence. It ſhould alſo be practiſed in all poſitions, and in all keys, which it may be preſumed the learner may now be able to do, without having a model for the different poſitions.

107.

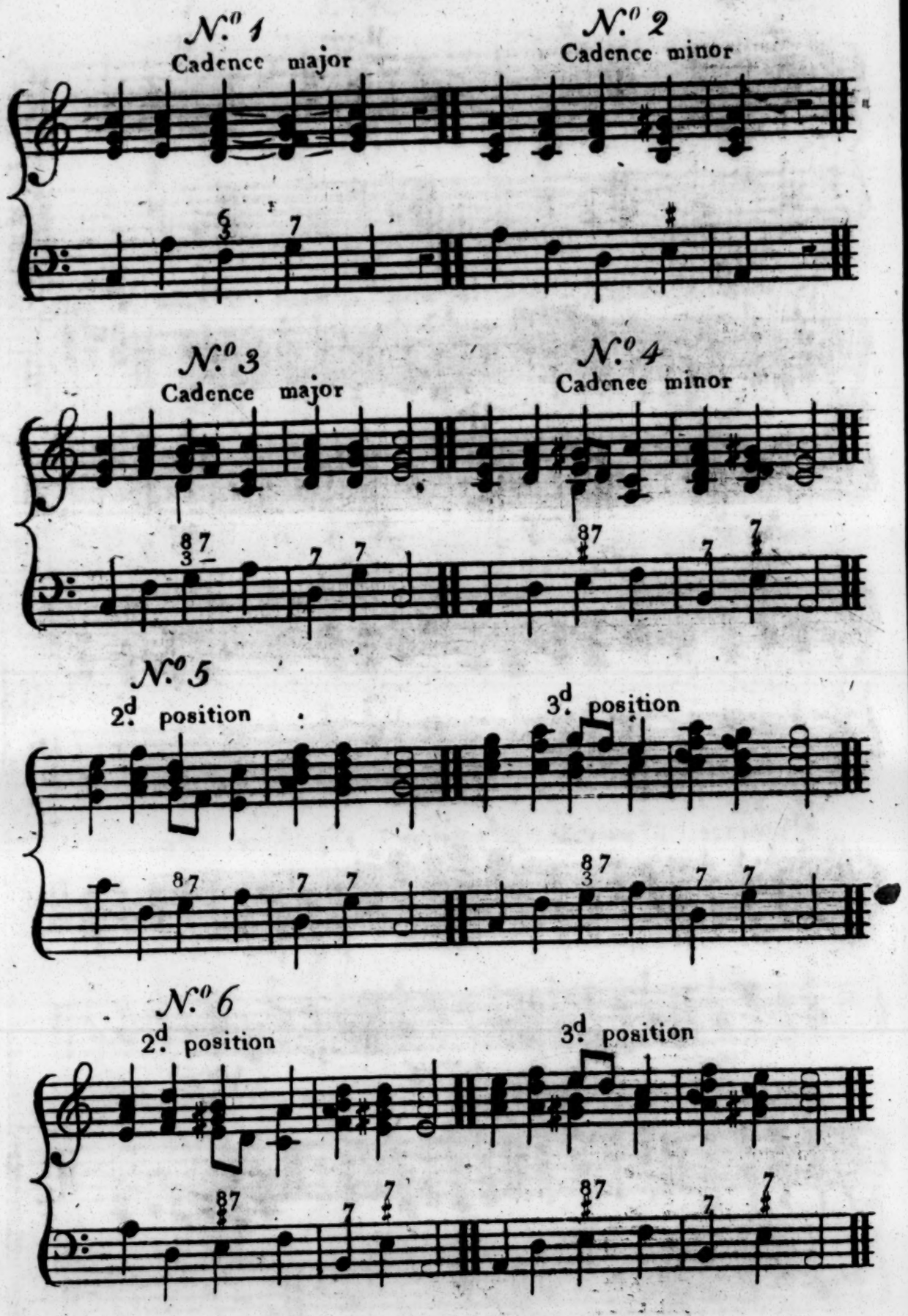
Cadences.

N.o 1.
Major
N.o 2.
Minor
N.o 3.
Major
N.o 4
Minor
N.o 5
1.st form
2.d form
3.d form
1.st form
2.d form
3.d form
4.th form
N.o 6
major
N.o 7
minor
N.o 8
major
N.o 9
minor
N.o 10
1.st position
2.d position
3.d position
1.st position
2.d position
N.o 11
N.o 12
3.d position
4.th position

Cadences.

Plate XII

107. In the next phraſe, Plate XII. No. 1. and No. 2. the chord of the ſubdominant is preceded by the perfect chord of the 6th, in both modes. In other words, the fundamental baſs note deſcends a 3d, (or aſcends a 6th), to the 6th of the ſcale, and then deſcends another 3d, to the 4th of the ſcale: it next proceeds by gradation to the chord of the 5th, leading to the final cloſe upon the key.* This is a pleaſing ſucceſſion, and ſhould be practiſed in all poſitions, and in all keys, major and minor; which it is alſo preſumed, the learner may now be able to do without a model. The chords of the 4th and 5th, may be either played perfect, or their diſcording notes may be added.

108. The laſt phraſe, Plate XII. No. 3. is intended to ſhow, and to afford practice upon the falſe cadence, or the progreſſion of the chord of the dominant

* When the fundamental baſs falls a 3d, or riſes a 6th, the notes which were 8ve and 3d in the preceding chord, become 3d and 5th of the following, and are therefore continued; the 5th of the preceding chord only moves a degree upwards to the 8ve of the following chord.

Cadences.

N.o 1
Cadence major
N.o 2
Cadence minor
N.o 3
Cadence major
N.o 4
Cadence minor
N.o 5
2.d position
3.d position
N.o 6
2.d position
3.d position

107. In the next phraſe, Plate XII. No. 1. and No. 2. the chord of the ſubdominant is preceded by the perfect chord of the 6th, in both modes. In other words, the fundamental baſs note deſcends a 3d, (or aſcends a 6th), to the 6th of the ſcale, and then deſcends another 3d, to the 4th of the ſcale: it next proceeds by gradation to the chord of the 5th, leading to the final cloſe upon the key.* This is a pleaſing ſucceſſion, and ſhould be practiſed in all poſitions, and in all keys, major and minor; which it is alſo preſumed, the learner may now be able to do without a model. The chords of the 4th and 5th, may be either played perfect, or their diſcording notes may be added.

108. The laſt phraſe, Plate XII. No. 3. is intended to ſhow, and to afford practice upon the falſe cadence, or the progreſſion of the chord of the dominant

* When the fundamental baſs falls a 3d, or riſes a 6th, the notes which were 8ve and 3d in the preceding chord, become 3d and 5th of the following, and are therefore continued; the 5th of the preceding chord only moves a degree upwards to the 8ve of the following chord.

nant into the 6th of the ſcale. This takes place upon the laſt note of the firſt bar. In the ſecond bar, the ſtrain is brought to a cloſe by the gradation and regular cadence, or by the ſucceſſion of the chords of ſubdominant, dominant, and tonic. For the ſake of variety, the ſubdominant chord is here taken in what we have called its third inverſion, or what by many is conſidered as its erect form. The baſs note is the 2d of the ſcale, bearing a chord of 3d, 5th, and 7th. To this note the baſs paſſes from the laſt note of the preceding bar, by deſcending a perfect 5th in the major mode, and a falſe 5th in the minor mode, imitating the ſtep of regular cadence; and it proceeds by a ſimilar ſtep to the chord of the dominant. This phraſe can be played correctly in three poſitions only. The ſecond and third poſitions are ſhewn in the major mode, at Plate XII. No. 5, and in the minor mode No. 6.

109. When the chord of dominant proceeds by falſe cadence into the chord of the 6th of the ſcale, ſome attentions are neceſſary, to avoid impure harmony. The 5th of the dominant chord muſt neceſſarily fall to the 3d of the reſolving chord, otherwiſe

there

there would be a diſagreeable conſecution of 5ths. The 8ve to the dominant chord cannot well move in any other way, than into the 8ve of the ſucceeding chord. As that therefore does more harm than good, that interval of the dominant chord had better be omitted; or if it exiſted in the chord, it may be dropt or made to deſcend to the 7th. The lower term of the tritone, and upper of the falſe 5th, in the dominant chord, muſt fall a degree to the 5th of the reſolving chord, while the other term of each muſt riſe a ſemitone to its 3d. As the 5th of the dominant alſo falls to the 3d of the reſolving chord, that interval is double*, and the 8ve is wanting.

The particular form of prelude, upon which the exerciſe in the following game is preſcribed, is the one which is deſcribed in 105, and ſhewn in Plate XI.

* When two notes of a chord paſs into the ſame note of the ſucceeding chord, or when the notes into which they move are at the interval of 8ve, that note of the ſucceeding chord is ſaid to be doubled. When, in the former caſe, the two notes are aſſigned to different inſtruments, they come into uniſon.

XI. Nos. 8. and 9. being that which comprehends the three principal chords. By the ſame apparatus, however, and upon the ſame plan, a ſimilar exerciſe upon the other forms may be obtained.

GAME

GAME IV.

ON CADENCES, OR PRELUDES.

PART I.

THE apparratus uſed in this Game is calculated to afford an exerciſe in all the keys, major and minor, on any of the preludes or cadences deſcribed in the concluſion of the foregoing Chapter, of which examples are given in Plate XI. and Plate XII.

Of theſe the moſt uſeful is the cadence Nos. 8. & 9. Plate XI. conſiſting of the chord of key, of 4th, of 5th, and of key; the proper diſcording notes being added to the chords of 4th and of 5th. The chord of

of the 4th always follows the mode of the key; that is, its 3d muſt be major or minor, according as the 3d of the chord of key is major or minor. The chord of the 5th muſt in every caſe have its 3d *major*.

The dice to be uſed in playing this firſt part of the game are the pairs No. 3. in each drawer, or thoſe bearing upon ſtaves the fundamentals and ſignatures of the firſt circle. But as, in the courſe of the game, other dice may be required, as auxiliaries, it is recommended, previous to the commencement of the game, to take out of each drawer all the dice belonging to the 1ſt and 2d compartments; namely, the pairs Nos. 1, 2, 3, and 4; alſo the dies of ſignatures without notes, from the 3d compartment of each drawer; and the ſingle die, bearing upon its faces the keys C and a, both in letters and in notes upon ſtaves, from the 3d compartment of drawer No. 1; and to arrange them in the ſame order on the face of the tables, in which they were placed in the drawers. To prevent confuſion, or loſs of time, it is recommended, when any auxiliary die is no longer wanted, to return it into its former place, among the dies arranged upon the tables.

To

To practiſe theſe preludes in the way of game, the perſon who plays firſt throws his pair of dice No. 3. and has the choice of either of the notes preſented, for the key note of his prelude. He then ſets up the common chord of that note upon his clavier, by placing his moveable notes, or pins, found in compartment 9, of each drawer, in the proper keys, and employing a white one for his baſs note—taking particular care, that the 3d of his chord be major or minor, according as the key note which he had choſen was a fundamental of the major or minor mode. The other player does the ſame.

The firſt player then puts into his box the die of the ſame mode, (major or minor), with his key, and alſo the die of ſignatures without notes.* If, upon throwing, either the 4th to his key note is preſented by the one die, or the ſignature of that fundamental note, according to the required mode, is preſented by the other die, he ſets up the chord of his 4th,

* This die is intended as a farther exerciſe upon fundamentals and ſignatures; and whenever it is thrown, the player muſt name the fundamental note, both of the major and minor key, which has the ſignature preſented.

with its 6th added. If neither of theſe are preſented, he marks his diſappointment by puting up a counter, which he alſo does at each of the two next throws which he makes in his turn, if neither of the faces wanted are caſt up. After that he is allowed, by way of help, along with his two dies, to put alſo into his box one of his letter dies, No. 1. that namely which bears the fundamentals of the mode required; and he is to continue to throw in his turn, until he obtain his 4th, either in letter, note, or ſignature.

He then proceeds to throw for his 5th. If his prelude is in the major mode, he uſes the ſame two dies, which he uſed for his 4th. But if his key ſhould be G, the 4th to which is C, or F, the 5th to which is C, or D minor, the 4th to which is a, the die formerly mentioned, bearing theſe letters is to be thrown.*

If

* If the key happen to be F♯, the 5th to which is C♯, major, the player muſt have recourſe, for that chord, to the major die, No. 4. If the key ſhould be G♭, the 4th to which C♭, as the player muſt, in like manner, have recourſe to his major

If his prelude is in the minor mode, in place of his die of fundamentals and ſignatures, he must take the die of *major* fundamentals and ſignatures, which has the note wanted, borrowing it, if neceſſary, from the adverſary: but if his ſignature be three ſharps, or upwards, he muſt uſe the major dies mentioned in the laſt note, which bear ſignatures from 7 to 12 ſharps.

If the note or ſignature wanted do not occur in *three* ſucceſſive throws in turn, to be marked as before by counters, he is allowed a ſimilar help to what was allowed for the chord of 4th, that is, to join with his two dies the die of major fundamental letters, which has upon one of its faces the letter wanted. When he obtains his fundamental, he muſt ſet up his chord of dominant, or chord of the 5th to his key, with its 7th

major die No. 4: and when auxiliary dies are wanted for theſe chords, the major dies No. 2. are to be uſed. In theſe caſes, the player muſt, inſtead of throwing his own die of ſignatures without notes, borrow that of the adverſary, which will give 5 flats as the correſponding ſignature to 7 ſharps, or 5 ſharps the correſponding ſignature to 7 flats.

7th added, making the ſeveral notes of his chord of 4th proceed into it, according to the rules given in the laſt Chapter.

Laſtly, to get home, he throws for his key note, uſing at firſt only his die of notes and ſignatures; and if he does not ſucceed in *three* throws, taking for help a letter die, as before. When he obtains it, he ſets up the chord of his key, or makes the ſeveral notes of his chord of 5th paſs into it, according to rule. His firſt prelude is then completed.*

The

* It will greatly facilitate the ſetting up theſe different chords, *in all the keys*, to obſerve what was ſaid in the Introduction 85 and 86, concerning the notes which *hold*, or are *continued* from one chord to another, and the progreſſion of the notes which *move*. Theſe may be alſo obſerved in the major cadence, Plate XI. No. 8; where the 8ve of the chord of key *holds*, and becomes 5th of the ſecond chord;—the 5th of the chord of key riſes a tone, and becomes 3d—the 3d of the chord of key riſes a ſemitone, and becomes 8ve—and the added 6th is taken a third below that 8ve. 2dly. The 6th and 8ve of the ſecond chord *hold*, and become reſpectively 5th and 7th of the third chord—the 3d of the ſecond chord deſcends a tone, and the 5th deſcends a ſemitone, and become reſpectively 8ve and

3d

The player next proceeds to perform his ſecond prelude, which muſt be in the minor mode, if the former was in the major mode, and contrariwiſe. He determines his key note by throwing a die, and proceeds as before. When this is finiſhed, the adverſary may call upon him to execute any of the cadences mentioned in the laſt Chapter, either in major or minor.

In

3d of the ſucceeding or third chord. Laſtly. The 8ve of the third chord *holds*, and becomes 5th of the laſt chord—the 3d, or ſenſible note, riſes a ſemitone to the key, or its 8ve, while the 7th deſcends a ſemitone, and becomes 3d of the chord of key; and the 5th may either riſe a tone and join the 3d, or fall a tone to the key or its 8ve.

In the minor cadence, Plate XI. No. 9. it muſt be obſerved, that in proceeding from the chord of the key, to the ſecond chord, the 3d riſes a *tone*, (inſtead of riſing a ſemitone, as in the major), and the 5th riſes a *ſemitone*, (inſtead of a tone, as in the major). 2dly. That in proceeding from the ſecond to the third chord, the 6th and 8ve muſt *hold*, as in the major cadence; but that the 3d as well as the 5th deſcends a *ſemitone*. Laſtly, That in proceeding from the third chord, to that of the key, the 7th of the chord, or 4th of the key, muſt deſcend a *tone*, and become *minor* 3d to the key.

In every ſucceeding prelude, the *poſitions* of the chords, or the arrangement of their notes muſt be changed.

If a player ſhall commit an error in placing or arranging the notes of his chords, he ſhall loſe the benefit of the next advantageous throw; or ſhall be ſubjected to ſuch other penalty, or give ſuch other advantage to the adverſary, as may be previouſly agreed upon by the parties.

He who ſhall have firſt completed three preludes wins the game.

This game may be alſo played by ſetting up the different chords on the muſical ſtaves, inſtead of ſetting them up on the clavier. The ſignature of the key in which each cadence is to be performed, being ſet up, (as in the ſecond part of Game II. on the various cliffs), namely, by placing the ſmall ivory pins, bearing the characters ♯, and ♭, found in compartment 10, as at b, c, in the frontiſpiece, either on the lower ſtave in the baſs cliff, or the upper ſtave in the treble cliff:—the fundamental of the firſt chord being ſet up by a white pin on the lower ſtave, (as at d), and the

the intervals of the chord over the fundamental on the upper ſtave; the other chords of the cadence to be ſet up in the ſame manner, and proceeding towards the right. The 8 black, and 2 white pins, in compartment 9, of each drawer, will ſuffice for ſetting up two chords; which, by remaining on the ſtave at the ſame time, will ſhew the *holding* and *moving* intervals of every two contiguous chords, and repreſent muſical notation, as the former mode of ſetting up the chords on the clavier repreſents the fingers on the inſtrument.

GAME

GAME IV.

ON CADENCES, OR PRELUDES.

PART II.

THE ſame exerciſe may be further extended to the keys with uncommon ſignatures, by uſing the dice of the ſecond circle.

When the dies of ſignatures without notes are to be thrown, the player with ſharps muſt take the die of flats, and the player with flats the die of ſharps; and if the ſignature of the *correſponding* key to that which is wanted ſhall be caſt up, he may proceed to ſet up his chord.

When the ſignature of 12 ſharps, or 12 flats is wanted, the ſingle die, bearing on its faces the letters C, and a, and ſtaves without any ſignature, is to be thrown.

INTRODUCTION.

CHAPTER VII.

RULE OF THE OCTAVE, OR HARMONY OF THE MAJOR AND MINOR SCALES.

110. As every degree of the Scale is found among the component notes of one or other of the three principal chords, viz. of the key, of the 4th, and the 5th; ſo where they occur in muſic, they may have the other notes of the chord to which they belong, for their baſs and harmonical accompaniment.—Hence the proper chords or accompaniments to be adapted to the notes of muſic, when they aſcend or deſcend diatonically, or by the degrees of the ſcale, may be eaſily found.

111. The key note, at the beginning or concluſion of a piece of muſic, or compleat ſtrain, muſt have its own chord.—The 2d of the ſcale, when it ſucceeds the firſt and is followed by the 3d, or when it ſucceeds the 3d and is followed by the firſt, is moſt properly and moſt generally referred to the chord of the dominant, in which it ſtands as 5th; in other words, it has the 5th of the ſcale for its fundamental baſs, and may have the other notes of the dominant chord, not excepting the added diſcord, for accompaniment. The 3d of the ſcale, following the 2d, ſo accompanied, ought to have the chord of the tonic, or key note, to which the preceding chord paſſes by regular cadence. The 4th of the ſcale, ſucceeding the 3d, will properly have its own chord, to which the chord of tonic, played to the 3d, paſſes alſo by regular cadence. When theſe aſcending notes are in the melody, or upper part, the regular cadence upon the 4th of the ſcale may be occaſionally rendered more ſtriking and concluſive, by adding to the leading chord, or the chord of the key played to the 3d, its minor 7th, which is the 7th of the ſcale flattened, or lowered a ſemitone. This gives a modulation, or temporary change of key, from the original tonic, to the 4th of the ſcale; or the 4th now appears, for a time,

time, as the key note. When the 5th of the ſcale comes after the 4th, in this ſituation, it ought to have the chord of the tonic of the ſcale, and not its own chord, both to avoid any diſagreeable conſecution, and to announce the return to the original key. When the aſcending ſcale again is in the baſs or loweſt part, as the 4th riſing to the 5th in that part, is generally conſidered as indicating the gradation upon the 5th, the latter degree will have its own chord in preference to that of the key. The chord of the 4th, thus leading in gradation, may have its added 6th: and as this precludes the idea of a medial cloſe, or modulation upon the 4th, the chord of the key which is played to the 3d of the ſcale, muſt be taken perfect, or without the added diſcord. When the 6th, 7th, and 8ve of the ſcale, occur in ſucceſſion, the reſpective harmonies are generally the chords of the 4th, the 5th, and the key, giving a paſſage of gradation, and cloſing the ſtrain by a regular cadence.

112. Upon theſe principles, the accompaniment of the aſcending baſs ſcale of the major mode, may be eaſily underſtood. The 1ſt, or key note, has of courſe its own chord. The 2d has the diſcordant

harmony

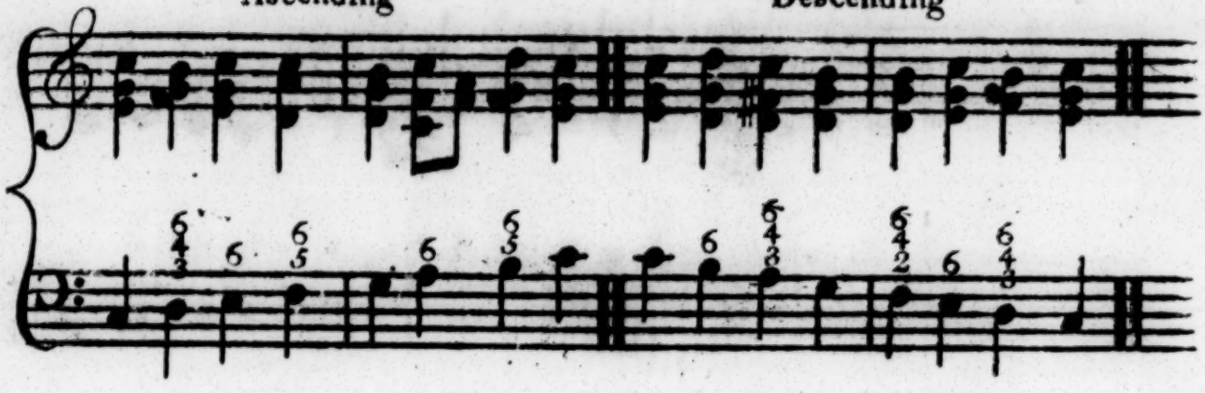
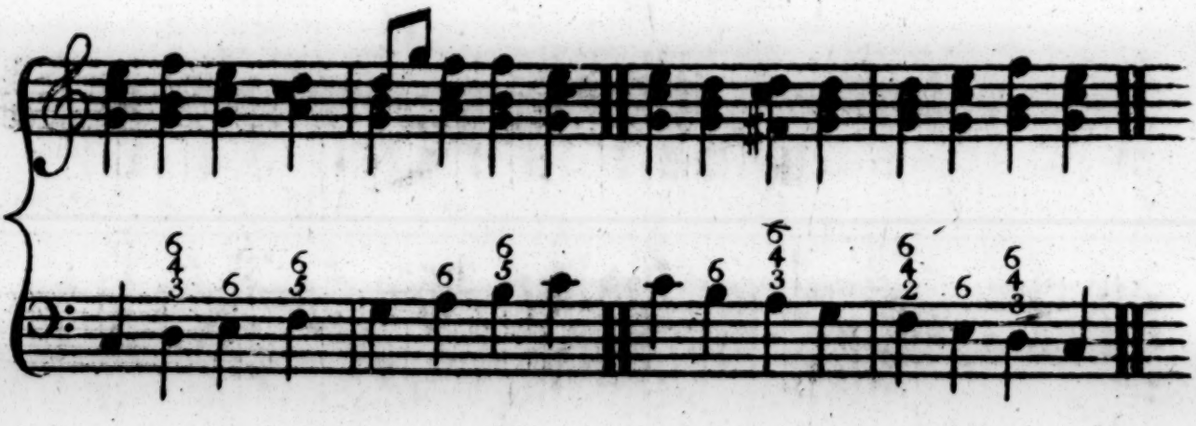
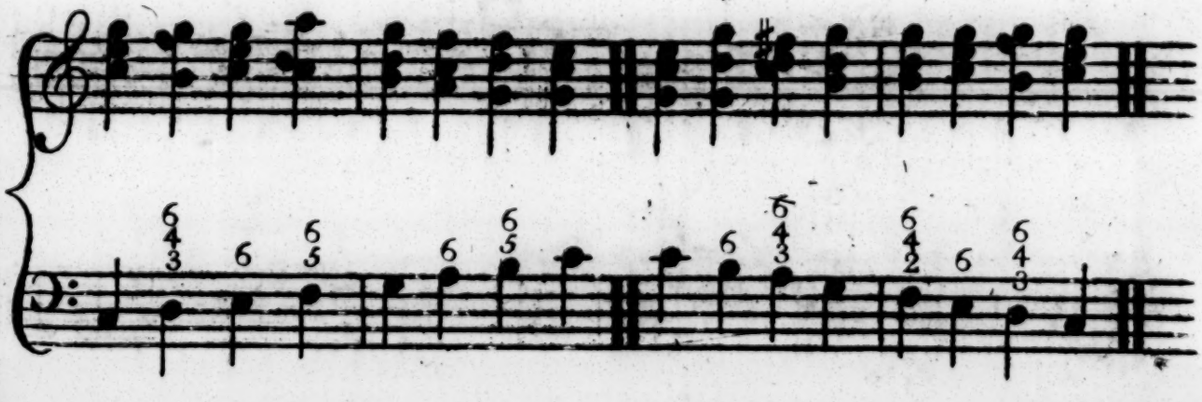
harmony of the chord of the dominant; and being 5th to the fundamental of that chord, or ſecond inverſion, the intervals to it are minor 3d, perfect 4th, and major 6th, and it will be cyphered by theſe figures (96). The 3d has the chord of the key, and being the firſt inverſion of that chord, or a chord of 6th (92), it will be cyphered by 6, or $\frac{6}{3}$. The 4th has its own chord, with 6th added, leading in gradation to the 5th, which has its own perfect chord. The 6th has the chord of the 4th, and being the firſt inverſion of that chord, is cyphered 6: the 4th to the baſs note, or added diſcord of the chord, is generally omitted (100). The 7th has the full chord of the dominant, and being in the place of the firſt inverſion of that chord (95), is a chord of falſe 5th, or the intervals to it are minor 3d, falſe 5th, and minor 6th. This chord leads in regular cadence to the 8ve, which having the chord of tonic, cloſes the ſtrain. The aſcending baſs ſcale of C, with the cyphers and the chords in three poſitions, are ſhewn in Plate XIII.

113. The aſcending baſs ſcale of the minor mode has the very ſame ſeries of chords. The chords of the tonic and the 4th have, of courſe, a minor 3d.

The

Rule of Octave.

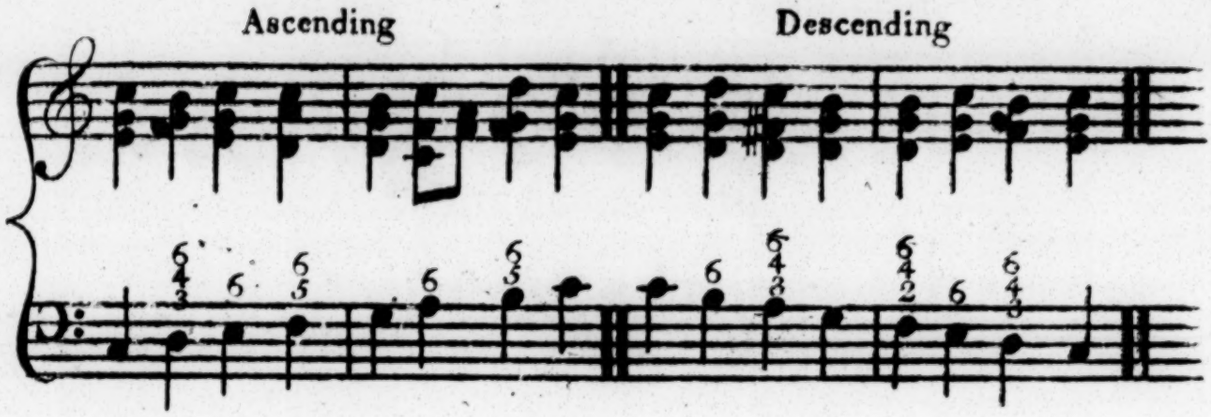
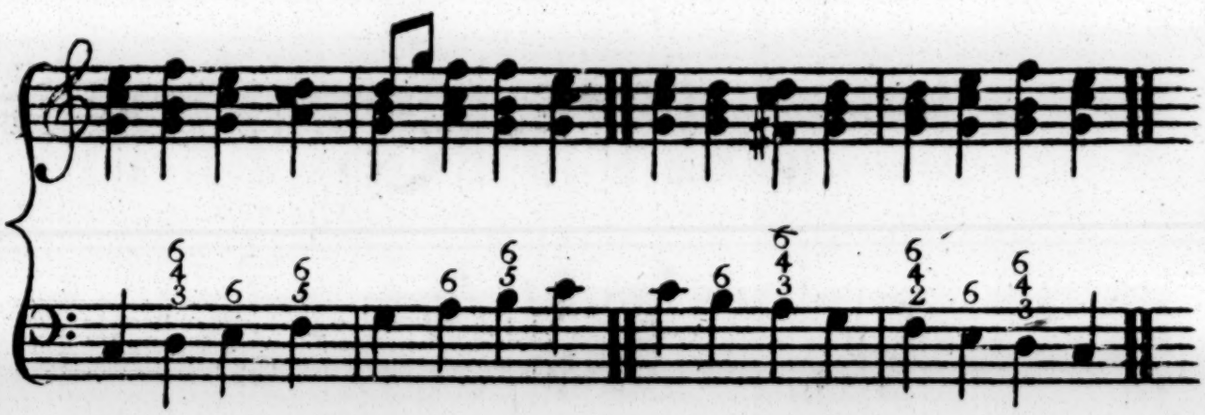
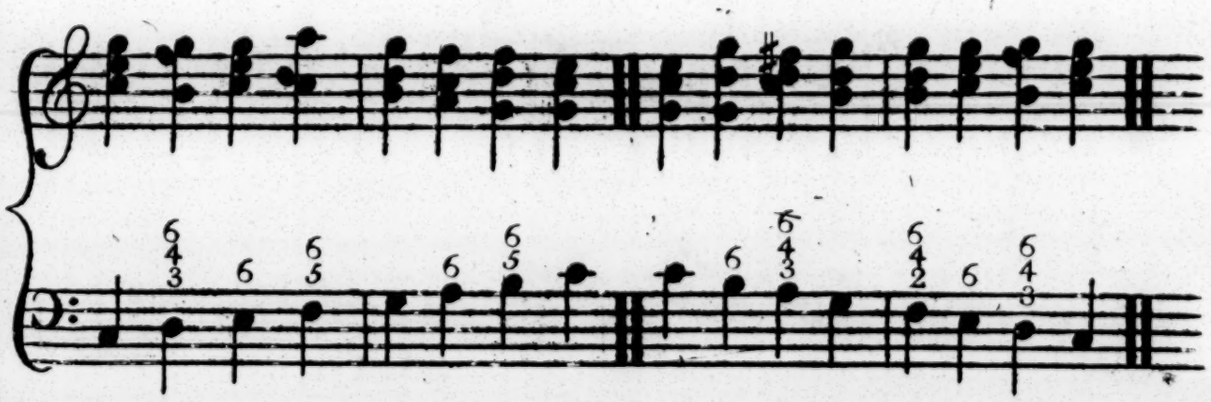
Major Scale ——— First position

Ascending Descending

Major Scale ——— Second position

Major Scale ——— Third position

harmony of the chord of the dominant; and being 5th to the fundamental of that chord, or ſecond inverſion, the intervals to it are minor 3d, perfect 4th, and major 6th, and it will be cyphered by theſe figures (96). The 3d has the chord of the key, and being the firſt inverſion of that chord, or a chord of 6th (92), it will be cyphered by 6, or $\frac{6}{3}$. The 4th has its own chord, with 6th added, leading in gradation to the 5th, which has its own perfect chord. The 6th has the chord of the 4th, and being the firſt inverſion of that chord, is cyphered 6: the 4th to the baſs note, or added diſcord of the chord, is generally omitted (100). The 7th has the full chord of the dominant, and being in the place of the firſt inverſion of that chord (95), is a chord of falſe 5th, or the intervals to it are minor 3d, falſe 5th, and minor 6th. This chord leads in regular cadence to the 8ve, which having the chord of tonic, cloſes the ſtrain. The aſcending baſs ſcale of C, with the cyphers and the chords in three poſitions, are ſhewn in Plate XIII.

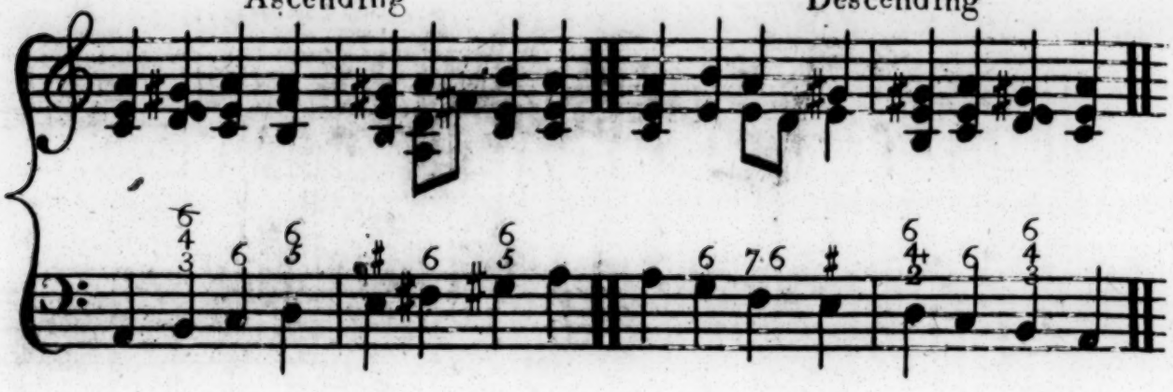
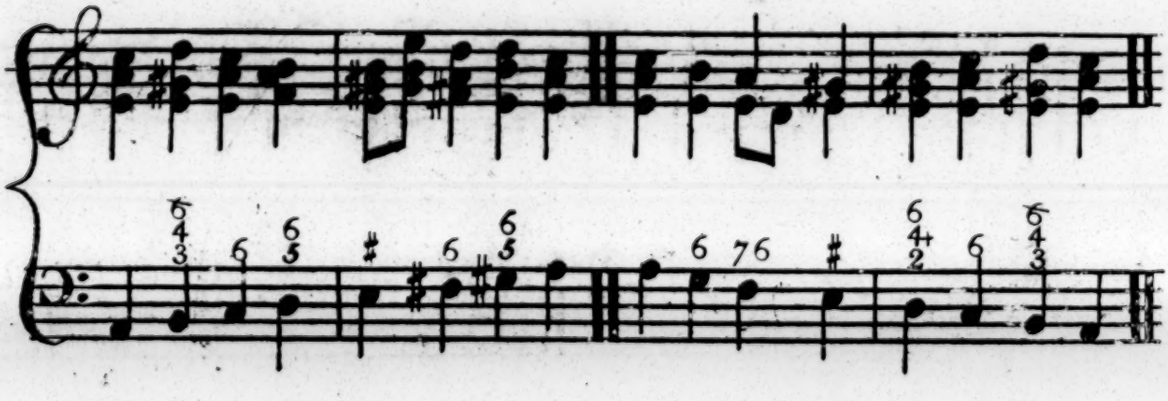
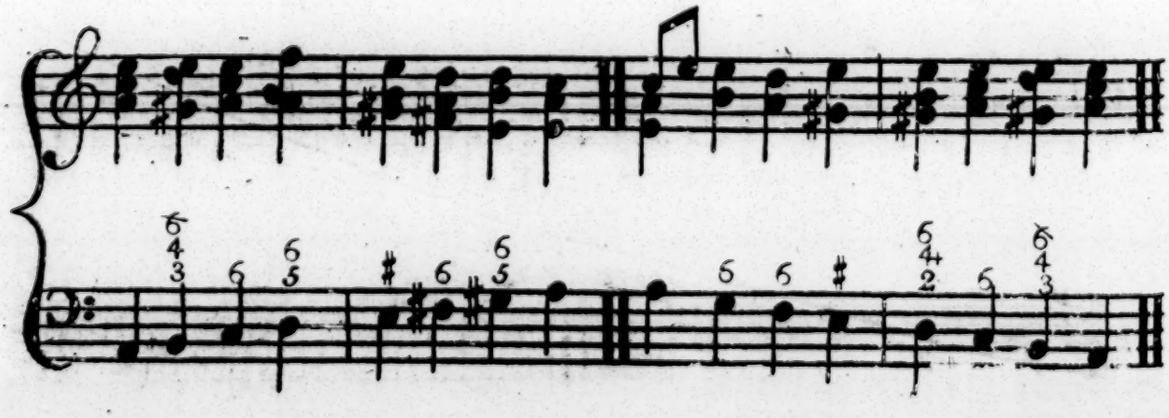
113. The aſcending baſs ſcale of the minor mode has the very ſame ſeries of chords. The chords of the tonic and the 4th have, of courſe, a minor 3d. The

Rule of Octave.

Major Scale ——— First position

Ascending Descending

Major Scale ——— Second position

Major Scale ——— Third position

Rule of Octave

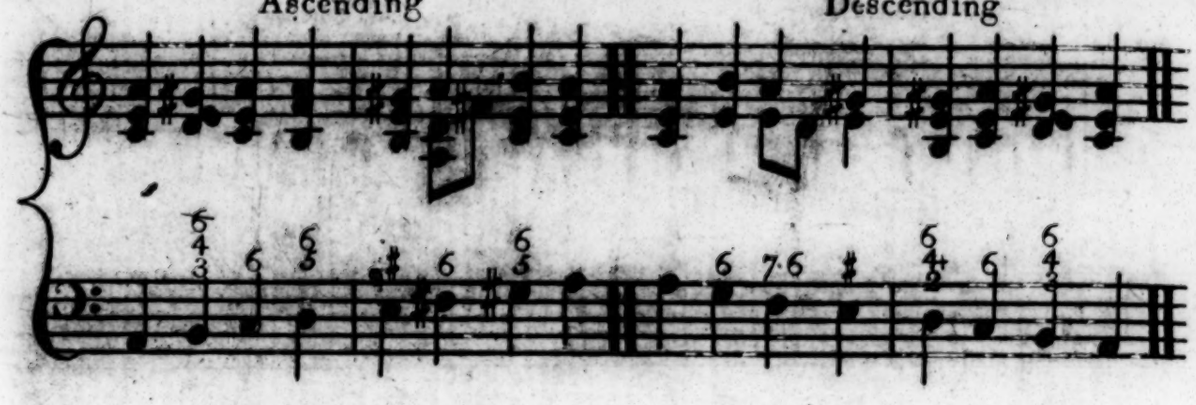
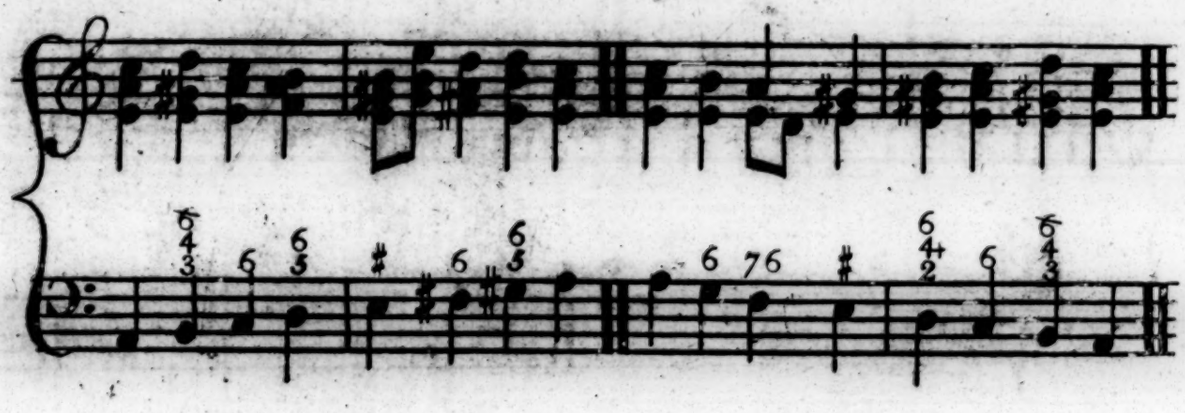
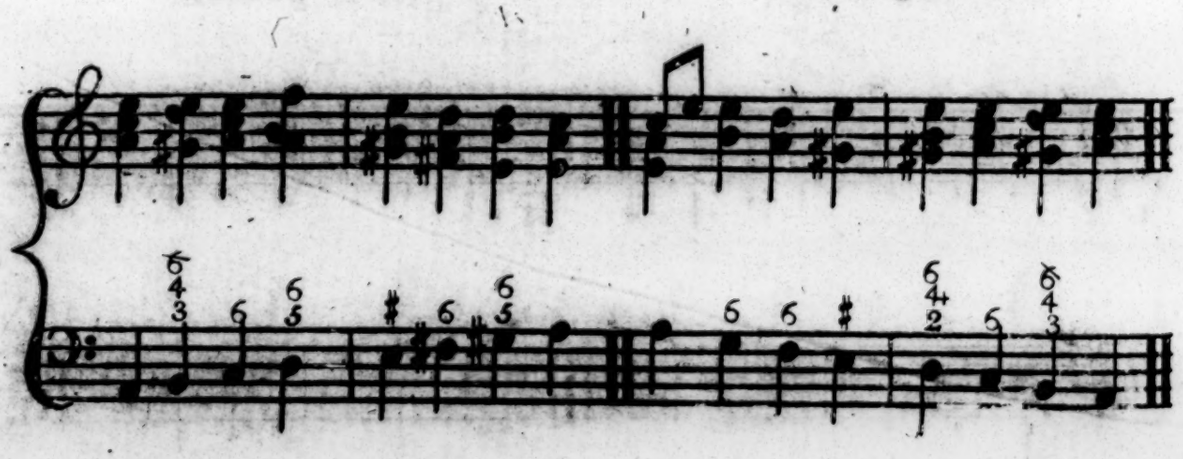
Minor Scale _____ First position

Ascending Descending

Minor Scale _____ Second position

Minor Scale _____ Third position

The chords of the 5th, wherever they occur, muſt be chords of major harmony; the 3d to the fundamental being the ſharpened 7th, or ſenſible note of the ſcale, which muſt be properly ſhewn in the cyphering. The 6th of the ſcale is generally ſharpened, in order that it may paſs more ſmoothly to the ſenſible note. See Plate XIV.

114. When, in the major mode, the notes proceed diatonically, from the 8ve downwards, as in this ſeries, the 5th of the ſcale is the 4th note in order, and concludes the firſt tetrachord; a regular pauſe, or cloſe, is naturally expected upon that note: in other words, it is expected that the 5th of the ſcale ſhall be accompanied by its own perfect chord, following in a regular cadence, or preceded by the chord of its 5th above, with major 3d and added 7th. The fundamental of the leading chord, in this regular cadence, muſt therefore be the 2d of the ſcale. The 3d to the fundamental of this chord is the 4th of the ſcale, and as the 3d of every dominant chord muſt be major, and as the 4th of the ſcale is a minor 3d to the 2d, that note muſt be ſharpened, or raiſed a ſemitone. The 5th of the chord is the 6th of the ſcale, the note to which the accompaniment is given; and the 7th of the

Rule of Octave

Minor Scale _____ First position

Ascending Descending

Minor Scale _____ Second position

Minor Scale _____ Third position

The chords of the 5th, wherever they occur, muſt be chords of major harmony; the 3d to the fundamental being the ſharpened 7th, or ſenſible note of the ſcale, which muſt be properly ſhewn in the cyphering. The 6th of the ſcale is generally ſharpened, in order that it may paſs more ſmoothly to the ſenſible note. See Plate XIV.

114. When, in the major mode, the notes proceed diatonically, from the 8ve downwards, as in this ſeries, the 5th of the ſcale is the 4th note in order, and concludes the firſt tetrachord; a regular pauſe, or cloſe, is naturally expected upon that note: in other words, it is expected that the 5th of the ſcale ſhall be accompanied by its own perfect chord, following in a regular cadence, or preceded by the chord of its 5th above, with major 3d and added 7th. The fundamental of the leading chord, in this regular cadence, muſt therefore be the 2d of the ſcale. The 3d to the fundamental of this chord is the 4th of the ſcale, and as the 3d of every dominant chord muſt be major, and as the 4th of the ſcale is a minor 3d to the 2d, that note muſt be ſharpened, or raiſed a ſemitone. The 5th of the chord is the 6th of the ſcale, the note to which the accompaniment is given; and the 7th of

the

the chord is the key note. There is therefore, in this paſſage, a change of key, or a modulation from the original key to its 5th, in which the ſharpened 4th is the ſenſible note. The natural, or unaltered 4th, coming now after the 5th, gives intimation of a return to the original key; and as this can only be properly eſtabliſhed by a regular cadence, the 4th muſt be referred to the 5th of the ſcale, in which it ſtands as added 7th. The chord of the 5th therefore is continued, as the accompaniment of the 4th of the ſcale. This, being now the dominant chord, proceeds by regular cadence to the chord of the key, to be played to the 3d of the deſcending ſcale. The 2d has the chord of the dominant, as in aſcending, which again paſſes to the chord of the key, and concludes the ſtrain.

115. When the deſcending major ſcale is in the baſs, the following ſeries of chords or accompaniments may be given to the ſeveral degrees. The upper note, or 8ve, has the chord of the tonic. To the 7th is played the chord of the 5th, and as this chord may be conſidered as announcing the modulation into that note, as a temporary key note, the diſcording interval of the dominant chord ought not to

be

be added: being the firſt inverſion therefore of a perfect chord, the baſs note will be cyphered by 6. To the 6th is played the dominant, or leading chord of a regular cadence upon the 5th: in other words, the chord of the 2d of the ſcale, with ſharpened 3d and added 7th. As the baſs note is the 5th of that chord, and therefore in the place of its 2d inverſion, the intervals to it are minor 3d, perfect 4th, and major 6th; and the figures expreſſive of theſe intervals may be written over it. As the 6th, however, is the moſt ſtriking interval, and gives name to the chord, it is often thought ſufficient to write that figure alone, and being an occaſionally ſharpened note, will have a ♯, or ♮, &c. according to circumſtances, prefixed to it, or it may have a ſmall daſh acroſs the top of it. The 5th has, of courſe, its own perfect chord, the reſolution of the preceding chord. The ſame perfect chord of the 5th, is continued to the 4th of the ſcale, the baſs note being in the place of added 7th of that chord, or the 3d inverſion of it. The chord is therefore a chord of tritone, and is cyphered accordingly. (97) The diſcord of tritone is duly reſolved by the baſs note, or 4th of the ſcale, deſcending to the 3d, while the chord of the 5th paſſes to that of the tonic: the 3d therefore has 6 written

over

over it. The 2d muſt have the ſame chord that it has in the aſcending ſcale, viz. the chord of major 6th, leading in a regular cadence to the concluding chord of the key. See this exemplified in the deſcending ſcale, Plate XIII.

116. In playing the deſcending minor ſcale, it is uſual to take the 7th and 6th, according to what is conſidered as the regular conſtitution of that ſcale, the former a tone below the 8ve, and the latter a tone below the 7th; the ſemitone thus ſubſiſting between the 6th and the 5th. Here, as in the major mode, a cloſe is expected to be made upon the 5th. This however, in the preſent circumſtances, cannot be a cloſe of regular cadence, but muſt be a cloſe of medial or imperfect cadence, by a paſſage of gradation. The 7th cannot well have any other accompaniment than the chord of the 5th, in this caſe, with minor 3d. The 6th muſt have the ſubdominant chord, leading to the perfect major chord of the 5th.

117. The chords of the upper tetrachord of the deſcending baſs ſcale, of the minor mode, may therefore

fore be as follows (Plate XIV.) The 8ve has, of courſe, the chord of the tonic. The 7th, having the 5th for its fundamental, its chord will be a chord of 6th. The 6th, having the 4th for its fundamental, its accompaniment will alſo be a chord of 6th.—Theſe two chords are beſt arranged when the 6ths to the baſs notes are uppermoſt, (as in Plate XIV.) at the third poſition. In the other form or poſition there is a conſecution of 5ths, in the upper parts. This may be obviated by continuing the note which is 6th in the chord, played to the 7th during part of the time of the ſucceeding chord, as a 7th ſuſpending the 6th of that chord, or keeping it off for ſome time, and then falling to it. This ſuſpenſion is cyphered by placing a 7 before the 6, as is ſeen in the firſt and ſecond poſitions of the minor ſcale deſcending. The ſame ſuſpenſion may be practiſed in playing the third poſition, although it is not neceſſary. Beſides the above, which is according to the practice of the older muſicians, there are various other ways in which the minor 6th of the ſcale deſcending to the 5th, is occaſionally accompanied, ſome of which will be afterwards explained.

118. The lower tetrachord of the deſcending baſs ſcale, in the minor mode, is accompanied by the very ſame ſeries of chords as in the major mode, viz. Chord of tritone to the 4th—chord of 6th to the 3d—of major 6th to the 2d—and tonic to the key.

GAME

GAME V.

ON THE RULE OF OCTAVE, OR ACCOMPANIMENT OF THE SCALE.

PART I.

On the Major Scale.

THE chords, or proper accompaniments of the ſeveral notes of the baſs ſcale, aſcending and deſcending, may be exhibited on the claviers, by placing the moveable notes in the keys, as in the laſt game; or they may be ſet up on the muſical ſtaves, as mentioned in the laſt paragraph of page 174; of which a model is given in Plate XIII.

The

The dice to be uſed, in playing this game, are the four in the 4th compartment of the Sharp drawer, having upon their faces numeral figures.

Theſe four dice are to be thrown by each of the players in turn, and whenever, among the figures preſented, are thoſe which expreſs the intervals to the baſs note of the ſeveral notes of the chord, which is to be performed,---in other words, which conſtitute the complete thorough-baſs cypher of that chord, as exhibited in the above model, the player may proceed to ſet it up.

As the figures expreſſing *all* the intervals of a chord, may frequently not appear *together*, in a conſiderable number of throws; if this does not take place in three ſucceſſive throws in turn, (to be marked by putting up counters), a ſmaller number, or even one of the intervals being *afterwards* preſented, may be a ſufficient warrant to the player to proceed with his chord.

This may be regulated in the following manner.

When

When the chord to be ſet up is that of the key, the player is not entitled to take it by his firſt three throws, unleſs the numbers 3, 5, and 8, appear together. After that, if any one of them is caſt up, he may proceed.

When the concordant harmony, or perfect chord of the 5th is wanted—for the three firſt throws, 3, 5,—afterwards, either of them.

When a concordant chord of 6th is to be played—for the three firſt throws 3, 6,—afterwards 6.

When the chord is that of 3d, 5th, and 6th, to the 4th of the aſcending ſcale—for the three firſt throws, 3, 5, 6,—afterwards 5, 6.

When the chord is that of 3d, 4th, and greater 6th, commonly called chord of greater 6th,—3d, falſe 5th, and 6th, called chord of falſe 5th,—2d, tritone and 6th, called chord of tritone,—for the three firſt throws, all the figures of which they conſiſt,—afterwards, the characteriſtic intervals, greater 6th, falſe 5th, tritone reſpectively.

As the cyphers of greater 6th, falſe 5th, and tritone are all upon one die, it need not be thrown, unleſs when thoſe intervals are wanted.

The player who, in this manner, ſhall firſt ſet up in order the ſeveral chords of the aſcending and of the deſcending ſcale, wins the game.

GAME

GAME V.

PART II.

On the Minor Scale.

THE ſame exerciſe to be performed on the aſcending and deſcending ſcale, in the minor mode, as in Plate XIV.

When for proceeding correctly from the 7th to the 6th of the deſcending ſcale, the ſuſpending 7th may be neceſſary for the chord of the 6th, the player is not to take that chord for the three firſt throws, unleſs the figures 3 and 7 are caſt up—afterwards 7 may be ſufficient. If, in either caſe, a 6th ſhall appear at the ſame time, he may immediately make his 7th paſs into the 6th—if not, he muſt throw for a 6th.*

When either of theſe exerciſes is repeated, the chord of key ought to be ſet up in a different poſition,

* The 5th of the ſcale, both aſcending and deſcending, muſt have its 3d *major*, being the *ſenſible note*, or *major* 7th of the ſcale;

tion, which will lead to different poſitions of the other ſucceſſive chords.

The penalties, or forfeitures for miſtakes, ariſing from ignorance or inadvertency, may be ſettled as in the laſt game.

It is recommended to practiſe this game, not only in the natural keys of C and A, as in the model; but alſo in all the other keys, major and minor.

INTRO-

ſcale; (Introduction 113) and as the cypher 3 does not expreſs the alteration of the ſcale, which is implied by the ※ over the 5th degree of it, as in the example Plate XIV.; the note which is major 3d, in this chord, muſt be named by the player; and inſtead of the die with the cyphers 3, 2, 7, he muſt throw two dies of fundamental notes, and ſignatures Nos. 3 and 4, bearing the note wanted, along with the other two dies; and if the note wanted does not caſt up in three throws taken in his turn, to be marked by counters, the two dies with cyphers are then to be left out, and one die, with the fundamental letter of the note wanted, muſt be added to the two former dies, Nos 3 and 4, for three more throws in turn, and afterwards a fourth letter die muſt be added, and the player muſt throw until he obtain the 3d wanted, either in note or letter, before he can ſet up his chord. In the keys of D♭ minor, and B♭ minor, the die bearing C and A upon its faces, in letters and notes, which are reſpectively the ſenſible notes of theſe keys, muſt be thrown in the ſame manner, until the proper letter or note caſt up.

INTRODUCTION.

CHAPTER IX.

RESOLUTION OF DISCORDS.

119. It was ſtated in the Introduction (37), that the intervals of perfect 8ve, perfect 5th, perfect 4th, major and minor 3ds, and major and minor 6ths, are *concords*, and that all the other intervals which enter into muſic are *diſcords*.

120. Although the diſcording intervals, when ſounded by themſelves, are more or leſs harſh or offenſive to the ear; yet, when they are judiciouſly introduced into muſic, they produce great and im-

portant effects. Their principal uſe is, to bind chords, to make the cadences more full and ſtriking, and to render the harmony of the ſucceeding chord more pleaſing by means of the contraſt.

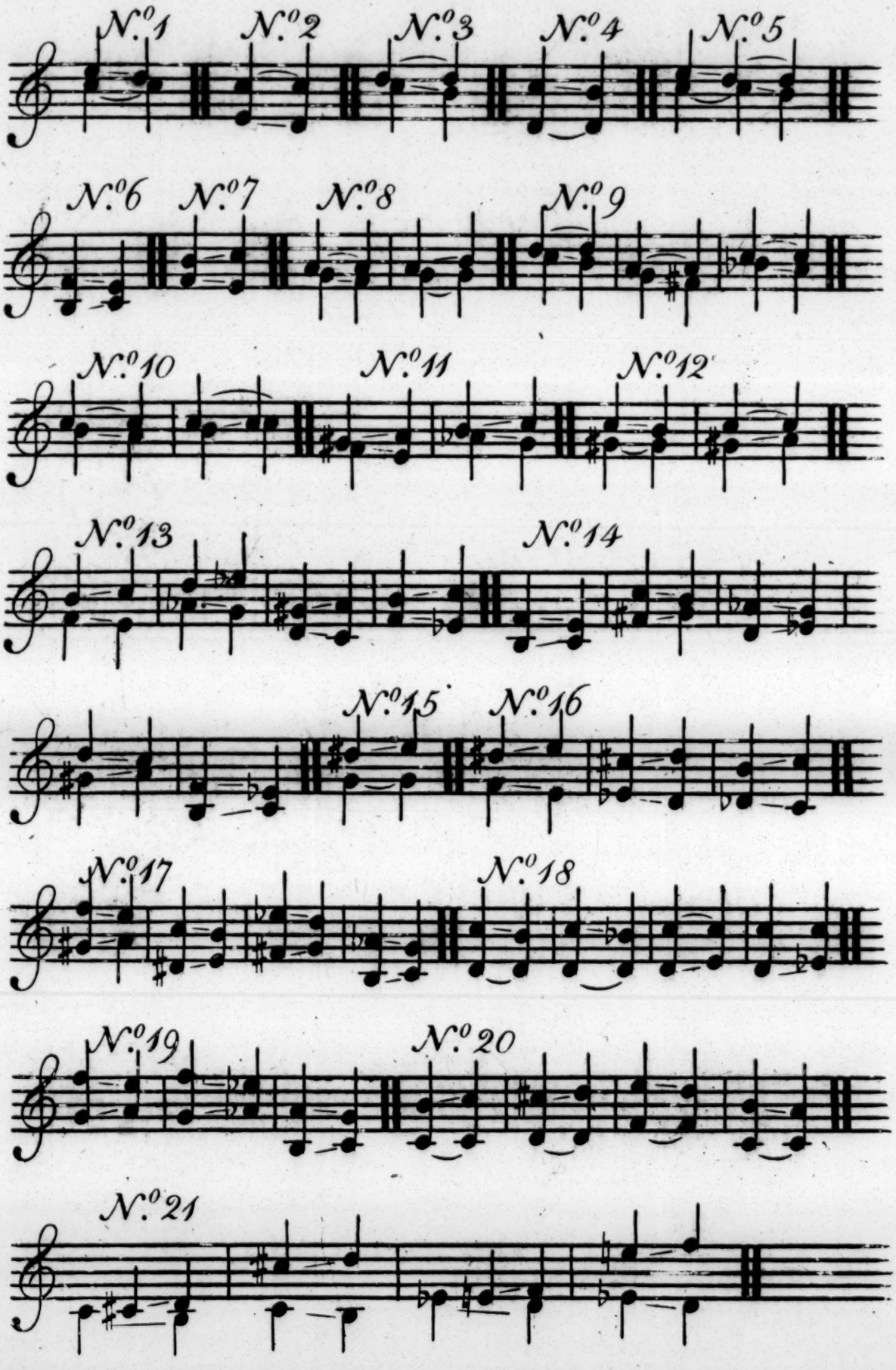
121. When two notes are at an interval of concord, and when the one being continued in the ſucceeding chord, the other is made to move upwards or downwards, ſo as to form with it an interval of diſcord; that diſcord is ſaid to have been *prepared* by the preceding concord; and the preceding concord is called the preparing interval, or the *preparation* of the diſcord. Thus if c and e, which form the concording interval of 3d, ſtand together in a chord, and if while c is continued in the ſucceeding chord, e falls to d; the diſcord of 2d thence ariſing, is ſaid to have been prepared by the concord c e, and the concord c e, is called the preparation of the diſcord c d. (Plate XV. No. 1.) In like manner, if *E* c, exiſt in a chord, forming the interval of 6th; and if, while c is held, *E* falls in the ſucceeding chord to *D*, the diſcord of 7th *D* c, is prepared by the 6th *E* c; and the 6th *E* c, is the preparation of the 7th *D* c. (Plate XV. No. 2.)

122.

To face P. 194.

Resolution of Discords

Plate XV



portant effects. Their principal uſe is, to bind chords, to make the cadences more full and ſtriking, and to render the harmony of the ſucceeding chord more pleaſing by means of the contraſt.

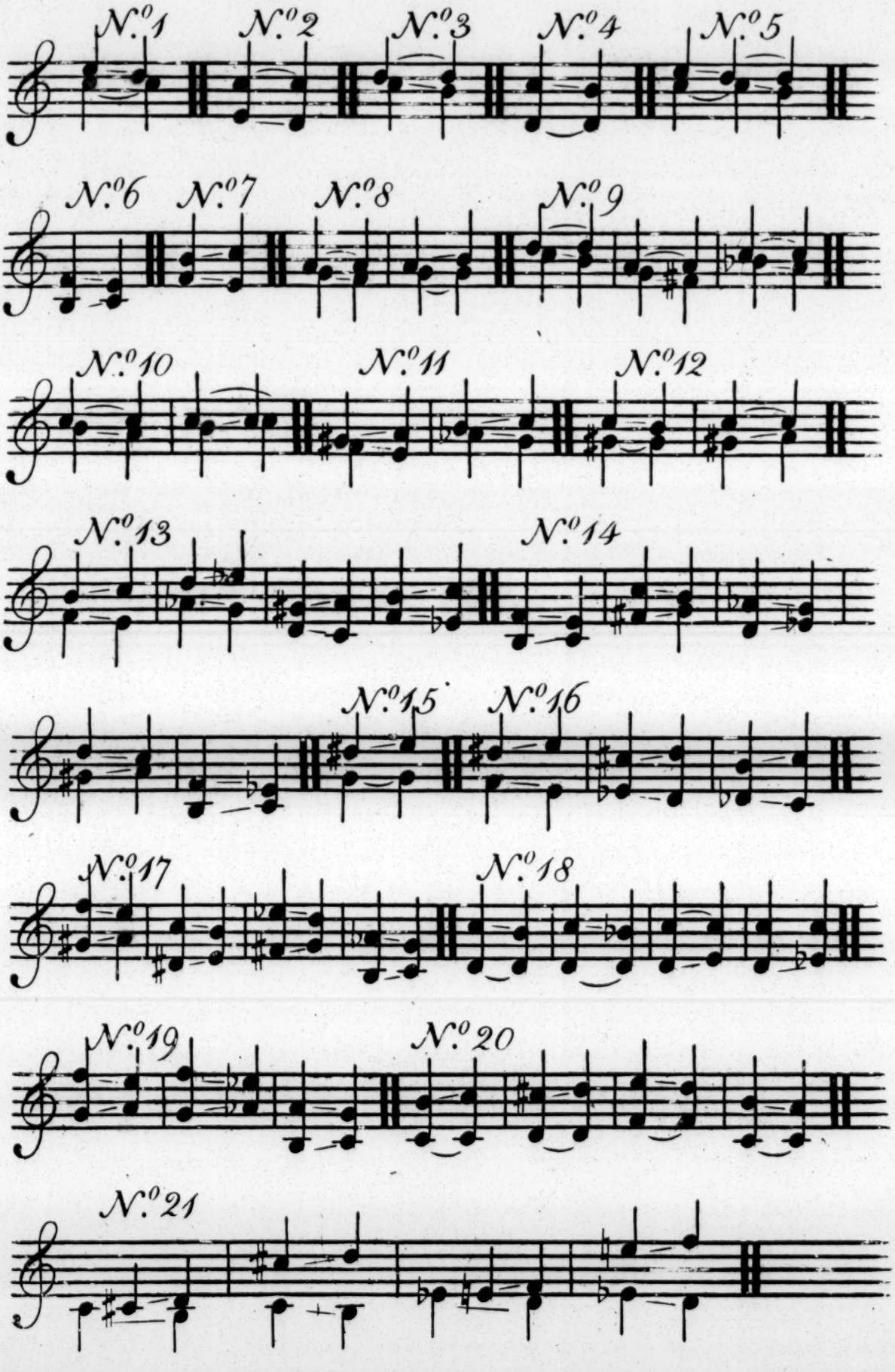
121. When two notes are at an interval of concord, and when the one being continued in the ſucceeding chord, the other is made to move upwards or downwards, ſo as to form with it an interval of diſcord; that diſcord is ſaid to have been *prepared* by the preceding concord; and the preceding concord is called the preparing interval, or the *preparation* of the diſcord. Thus if c and e, which form the concording interval of 3d, ſtand together in a chord, and if while c is continued in the ſucceeding chord, e falls to d; the diſcord of 2d thence ariſing, is ſaid to have been prepared by the concord c e, and the concord c e, is called the preparation of the diſcord c d. (Plate XV. No. 1.) In like manner, if *E* c, exiſt in a chord, forming the interval of 6th; and if, while c is held, *E* falls in the ſucceeding chord to *D*, the diſcord of 7th *D* c, is prepared by the 6th *E* c; and the 6th *E* c, is the preparation of the 7th *D* c. (Plate XV. No. 2.)

122.

To face P. 194.

Resolution of Discords

Plate XV



122. Again, when one or both of the terms of a diſcord are made to move, ſo that the new interval thus ariſing betwixt them becomes a concord; the diſcord is ſaid to be *reſolved* into the concord; and the concord is called the reſolving interval, or the *reſolution* of the diſcord.

Thus if the lower term of the diſcord c d, falls to b, while the upper term remains, the 2d c d, is reſolved into the concording interval of minor 3d, b d; and the concord b d, is the reſolving interval, or reſolution of the diſcord. (Plate XV. No. 3) So if the upper term c, of the 7th *D* c, falls to b, while the lower term remains, we obtain the concording interval of major 6th, *D* b, the reſolution of the diſcording 7th, or the concord into which it is reſolved. (Plate XV. No. 4.) Hence if the three intervals c e, c d, b d, are ſounded in ſucceſſion, the firſt is the *preparation* of the diſcord, the ſecond is the *diſcord* itſelf, and the third is the *reſolution*. (Plate XV. No. 5.) In like manner, if the lower term of the falſe 5th *B* f, riſes to *C*, while at the ſame time the upper term falls to *E*, we obtain the 3d, *C E*, the reſolution of the diſcord: (Plate XV. No. 6.) and if the lower term of the tritone,

f b,

f b, falls to *E*, while the upper term riſes to c, the diſcord f b, is reſolved into the 6th, *E* c. (Plate XV. No. 7.)

123. The movements by which concords paſs into diſcords, and by which diſcords are reſolved into concords, are commonly diatonical, or into the next degrees of the ſcale, above and below. When both the terms of an interval move at the ſame time, the one upwards and the other downwards, as in the above reſolutions of the falſe 5th and tritone; they are ſaid to proceed by *contrary motion*. When the lower term riſes a degree, while the upper one falls a degree, they converge, or approach to one another, and the numeral denomination of the new interval is leſs, by two, than that of the preceding interval.—When again the lower term falls a degree, while the upper one riſes a degree, they diverge, or recede from one another, and the numeral denomination of the new interval is greater, by two, than that of the preceding interval. It is not always neceſſary that diſcords be prepared, but it is always neceſſary that they ſhould be reſolved; although the proper and compleat reſolution is often ſuſpended or held off, for a time, by ſome intermediate interval.

124. The moſt common reſolutions of the principal diſcords, which enter into muſic, are as follows.

Major 2ds are reſolved into 3ds, major or minor, by the lower term deſcending a degree, while the upper term holds, or is continued; or by the upper term riſing a degree, while the lower term holds; as g a, into f a, or g b; (Plate XV. No. 8.) both theſe modes are employed almoſt indifferently. The moſt pleaſing and perfect reſolution of the major 2d, however, is into the minor 3d, by the lower term falling a ſemitone, or minor 2d, while the upper term holds; as c d, into b d, g a, into f♯ a, or b♭ c, into a c: (Plate XV. No. 9.) And it may be here laid down as a general axiom, that the moſt pleaſing and perfect reſolutions of diſcords are obtained when the terms move by ſemitones, or minor 2ds. It is upon this principle that, in the following game, reſolutions by *ſemitones*, entitle the player to greater advantages than reſolutions by *tones*.

125. Minor 2ds are commonly reſolved into minor 3ds by the lower term falling a tone, while the upper term remains, as b c, into a c; they may be ſometimes

ſometimes reſolved by the lower term riſing into uniſon with the upper term. (Plate XV. No. 10.)

126. The augmented or ſuperfluous 2d, is reſolved into perfect 4th, by the lower term falling a minor 2d, or ſemitone, while the upper term riſes a ſemitone; or, as it may be expreſſed, by the contrary motion, by ſemitones diverging; as f g♯, into *E* a; a♭ b, into g c. (Plate XV. No. 11.)

127. The diminiſhed 4th is reſolved into minor 3d, generally by the upper term falling a ſemitone, while the lower term remains; ſometimes alſo, by the lower term riſing a ſemitone, while the upper term remains; as g♯ c, into g♯ b, or into a c. (Plate XV. No. 12.)

128. The tritone is reſolved into minor 6th, by the contrary motion, by ſemitones diverging; as f b, into *E* c; a♭ d, into g e♭: or it may be reſolved into major 6th, by the upper term riſing a ſemitone, while the lower term falls a tone or major 2d, as *D* g♯, into *C* a; f b, into *E*♭ c. (Plate XV. No. 13.) The former is the moſt pleaſing and perfect reſolution.

129.

129. The falſe 5th, the complement of the tritone, is reſolved into major 3d, by the contrary motion, by ſemitones converging; as *B* f, into *CE*; f♯ c, into g b; *D* a♭, into *E*♭ g; or it is reſolved into minor 3d, by the lower term riſing a ſemitone, while the upper falls a tone; as g♯ d, into a c; and *B* f, into *CE*♭. (Plate XV. No. 14.) The former is the moſt pleaſing.*

130, The ſuperfluous or augmented 5th, is reſolved into major 6th, by the upper term riſing a ſemitone, while the lower remains; as g d♯, into g e. (Plate XV. No. 15.)

131.

* The reſolutions of the tritone and falſe 5th, above explained, are thoſe which take place in regular cadences, upon a key note or tonic, in the major and minor modes of muſic, and are the moſt ſtriking and important. In the paſſage from the ſubdominant to the dominant chords, in muſic of the minor mode, the tritone is reſolved into perfect 5th, by the lower term falling a ſemitone, while the upper term holds; as the falſe 5th is reſolved into perfect 4th, by the upper falling a ſemitone, while the lower holds. (85) Theſe progreſſions are not taken into this game.

131. The augmented or ſuperfluous 6th, is reſolved into perfect 8ve, by the contrary motion by ſemitones *diverging*; as f d♯, into *E* e; *E*♭ c♯, into *D* d; *D*♭ b, into *C* c. (Plate XV. No. 16.)

132, The diminiſhed 7th is reſolved into perfect 5th, by the contrary motion by ſemitones *converging*; as g♯ f, into a e; *D*♯ c, into *E* b; f♯ e♭, into g d; *B* a♭, into *C* g. (Plate XV. No. 17.)

133. Minor 7ths are reſolved into major or minor 6ths, either by the upper term falling a ſemitone, or a tone, while the lower term remains; or by the lower riſing a tone or a ſemitone, while the upper remains. Thus the 7th *D* c, may be reſolved into major 6th *D* b, or into minor 6th *D* b♭, or into minor 6th *E* c, or into major 6th *E*♭ c. (Plate XV. No. 18.) The firſt of theſe reſolutions. or when the upper term falls a ſemitone, is the moſt pleaſing.*

134.

* In the muſical progreſſion, commonly called the falſe or diſappointing cadence, (76. and 109.) the minor 7th is reſolved into perfect 5th, by contrary motion, the upper term falling a ſemitone, while the lower riſes a tone, in the major mode; and

134. The moſt pleaſing reſolution of the major 7th is into perfect 8ve, by the upper term riſing a ſemitone, while the lower remains; as *C* b, into *C* c; *D* c𝄪, into *D* d. It is alſo reſolved into major 6th, by the upper term falling a tone, while the lower remains; as f e, into f d; *C* b, into *C* a. (Plate XV. No. 20.)

135. When the diminiſhed 8ve occurs in muſic, the upper term is, for the moſt part, an appogiatura, or note of effect, ſuſpending the leſs ſevere diſcord of minor, or diminiſhed 7th, to a ſenſible note.

136. The chromatic ſemitone, or rather its compound, the augmented 8ve, is ſometimes regularly reſolved by the contrary motion, by ſemitones

 diverging

and the upper term falling a tone, while the lower riſes a ſemitone, in the minor mode. Thus the 7th g f, is reſolved into a e, or into a♭ e♭. (Plate XV. No. 19.) The minor 7th is reſolved into perfect 5th, when the lower term is a ſenſible note. (See the laſt example.) The former of theſe progreſſions do not enter into this Game; exerciſes upon the latter will be had in the ſecond part.

diverging, intò minor 3d, or its compound the minor 10th; as *C C*♯, into *B D*; or *C* c♯, into *B* d; and *E*♭ *E*♮, into *D* f; or *E*♭ e♮, into *D* f. * (Plate XV. No. 21.)

* See Haydn's ſymphonies for Salomon's Concert, No. 7. and No. 8.

GAME

GAME VI.

OF THE RESOLUTION OF DISCORDS.

PART I.

THIS game is played with the ſame ſets of dice as Game III. on intervals, (viz the pairs No. 3. in each drawer); and the ſame attention is to be paid to, and the ſame account to be given of the muſical intervals which are caſt up.

Each of the players takes his twelve larger and twelve ſmaller counters. In reckoning the game, the twelve ſmaller counters are held to be equivalent to one of the larger; and the party is gained by one

the player who has firſt ſet up all his twelve large counters.

When the interval preſented is *concordant*, the player who has obtained the throw, muſt tell how many ſemitones the interval conſiſts of, and is entitled to put up the ſame number of ſmall counters.

When the interval preſented is *diſcordant*, the player who has thrown it, muſt firſt ſet up the ſame interval upon the clavier, or upon the ſtave, by means of the moveable notes. He muſt then duly reſolve the diſcord, according to the rules given in the foregoing Chapter, and the examples in Plate XV.

When in making the reſolution, only one of the terms moves; if a tone, the thrower is entitled to 6 ſmall counters; if a ſemitone, he is entitled to 12 ſmall, or 1 large counter.* If one of the terms move a ſemitone, and the other a tone, he ſhall be entitled to 1 large, and 6 ſmall counters. If both the terms move ſemitones, he ſhall be entitled to 2 large counters.

When

* See Introduction 124. towards the end.

When a due reſolution of the diſcord may be obtained, by moving one of the terms either a tone or a ſemitone, the player muſt determine in which of the two modes he is to proceed, by throwing the die upon which are the letters T and S.

When a diminiſhed 8ve occurs, it is to be reſolved into a minor, or diminiſhed 7th, by the upper term deſcending either a ſemitone or tone, as the die bearing the letters T and S, ſhall determine; and the player ſhall be entitled to the ſame advantages as if it were reſolved into a concord.

When an imperfect prime is caſt up, it is firſt to be ſet up as preſented by the dice, and afterwards inverted into its complement, the diminiſhed 8ve, which is to be treated as above.

When a perfect prime, or uniſon, occurs, it is to be conſidered as a loſt throw.

The two following exerciſes may, or may not, be admitted into this game, as ſhall be agreed upon by the parties.

1.

1. A perfect 8ve, which contains 12 ſemitones, entitles the player, by the foregoing rules, to ſet up 12 ſmall, or 1 large counter; but before ſetting up the counter, the player muſt name every degree, aſcending and deſcending, of the ſcale of that key which is preſented by the major die, (the claviers being covered), and muſt mention the degrees of the ſcale, between which the ſemitones are found. If he performs this exerciſe without a miſtake, he ſhall be entitled to ſet up his counter; but if he fail, and the adverſary ſhall correct his miſtake, the counter is to be ſet up by the adverſary.

2. When the dice preſent a major key, and its relative minor, the player muſt name every degree of the ſcale of that key which is preſented by the minor die, both aſcending and deſcending, (making the ſixth and ſeventh major in the aſcending ſcale), and naming the degrees of the ſcale between which the ſemitones are found, both aſcending and deſcending. If he perform this exerciſe correctly he ſhall be allowed to ſet up a large counter, inſtead of the ſmall counters to which the concordant interval caſt up would have entitled him.

INTRO-

INTRODUCTION.

CHAPTER X.

OF CHORDS BY LICENCE.

136. MUSICIANS have introduced certain licences in the uſe of chords, by occaſionally altering or ſuſpending one or more of their notes, or playing them to baſs notes which do not enter into their compoſition. The object of theſe licences is to give variety to their accompaniments, and to obtain certain muſical expreſſions and tranſitions, which are not afforded by the regular chords. The moſt remarkable claſſes of chords, which may be conſidered as chords by licence, are the chords of Subſtitution or borrowed harmony, the chords of major 7th, and the chords of

ſuperfluous

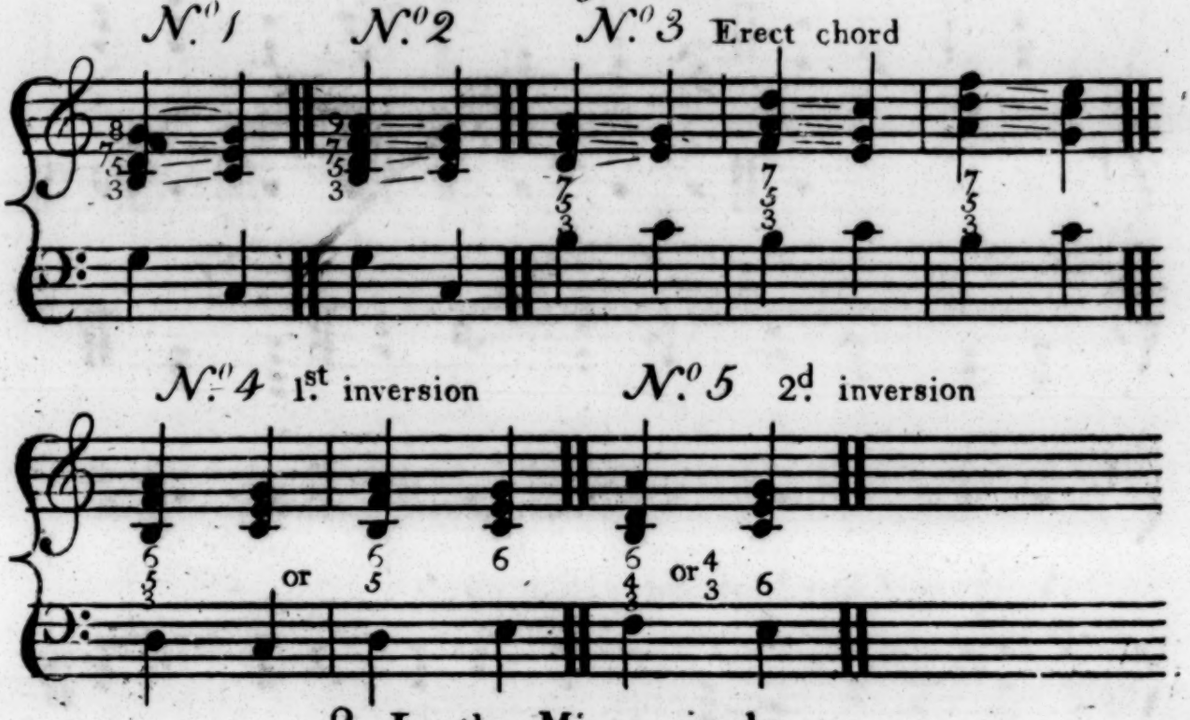
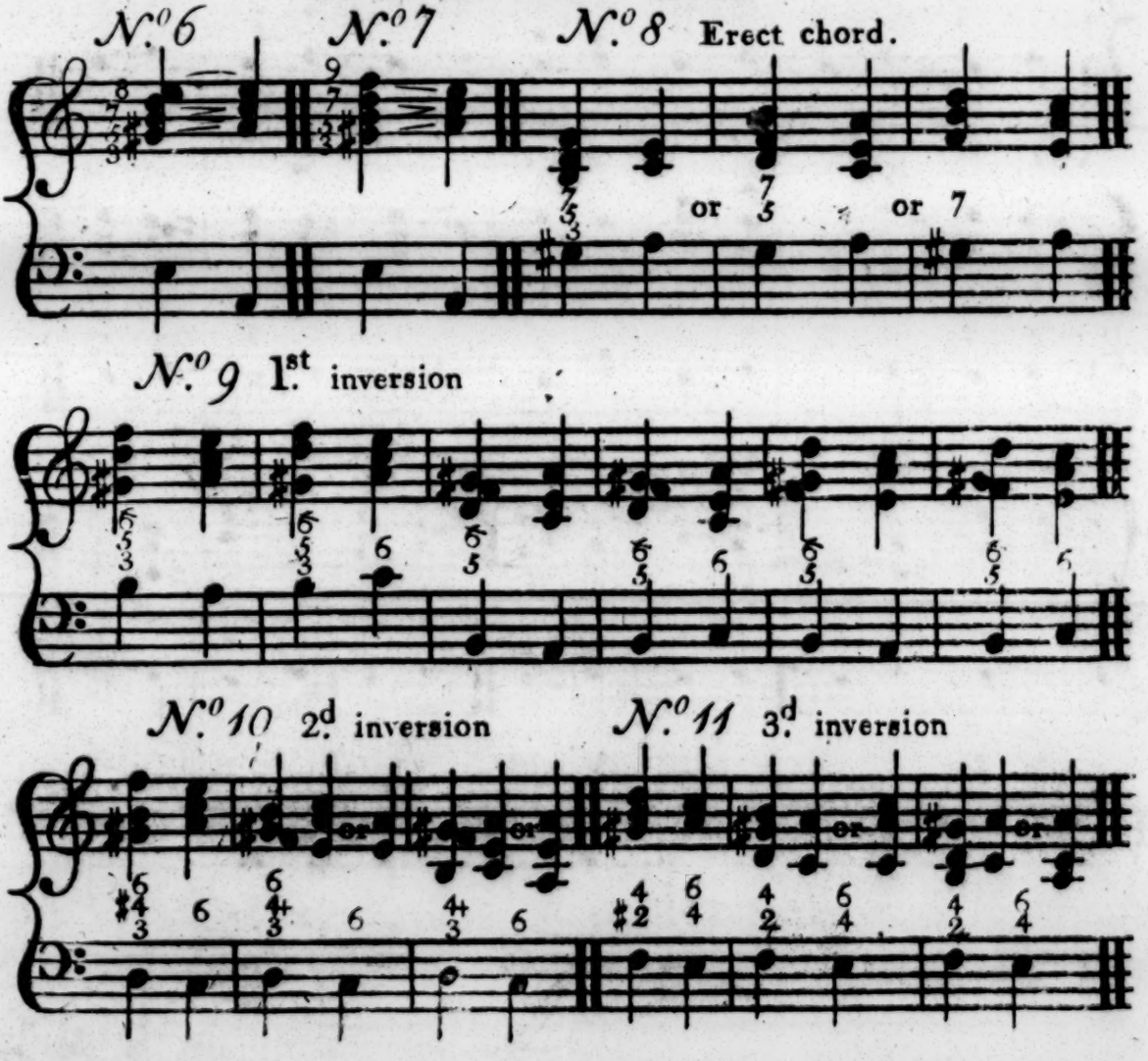
ſuperfluous or augmented 6th. The ſecond part of the game of diſcords is chiefly deſigned to be an exerciſe upon theſe chords.

I. CHORDS OF SUBSTITUTION, OR BORROWED HARMONY.

137. When in a chord of the 5th of a ſcale, with added 7th, the 6th of the ſcale is taken in place of the 5th, or of its octave, the chord is called a chord of *Substitution*, or of ſubſtituted dominant. Thus the chord of the 5th, in the major ſcale of C, is compoſed of the notes *G*, *B*, *D*, f, g. If g, the octave to the fundamental, or 5th of the ſcale, be dropt, and the next degree above, or 6th of the ſcale, a, be taken in its ſtead; we have the chord *G*, *B*, *D*, f, a, the major chord of ſubſtitution, or ſubſtituted dominant of the key of C. In like manner, if in the chord E, $G^{\#}$, *B*, *D*, *E*, the chord of the 5th, or dominant in the minor key of A, we take f, inſtead of E, we obtain the minor ſubſtitution chord E, $G^{\#}$, *B*, *D*, f. Plate XVI. Nos. 1. and 2, and Nos. 6. and 7. As the 6th of the ſcale belongs properly to the chord of the 4th, or ſubdominant, and is here, as it were, borrowed

To face P. 208.

Chords of Substitution.

1. In the Major mode.

2. In the Minor mode.

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To face P. 208.

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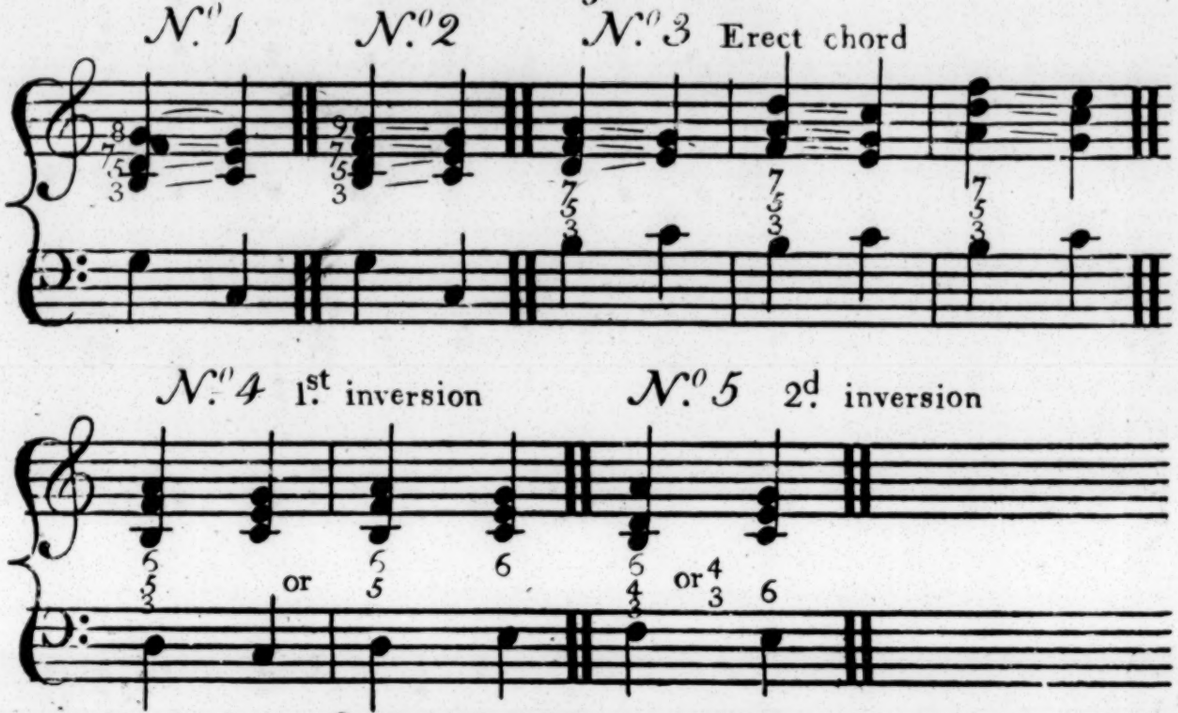
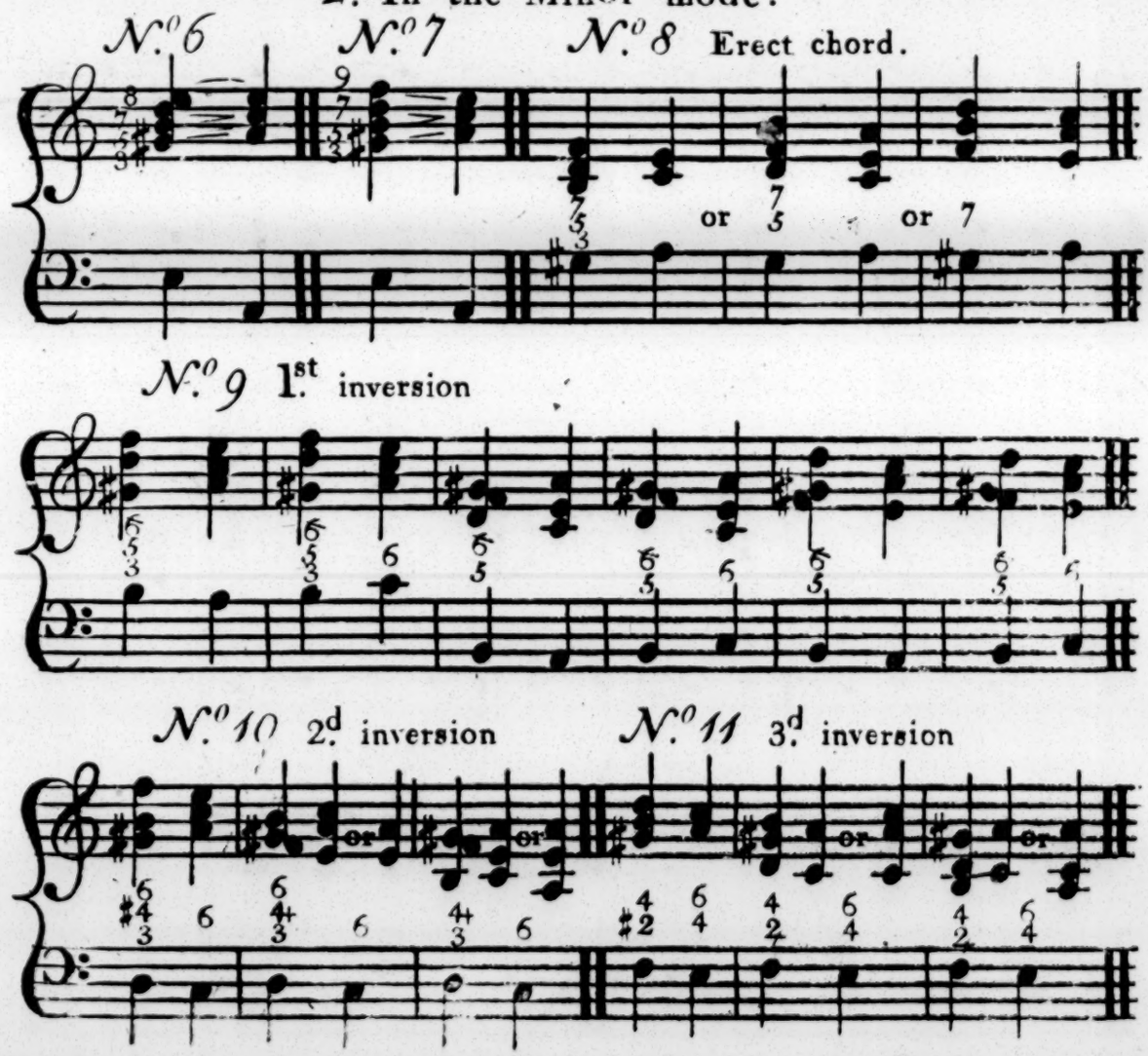
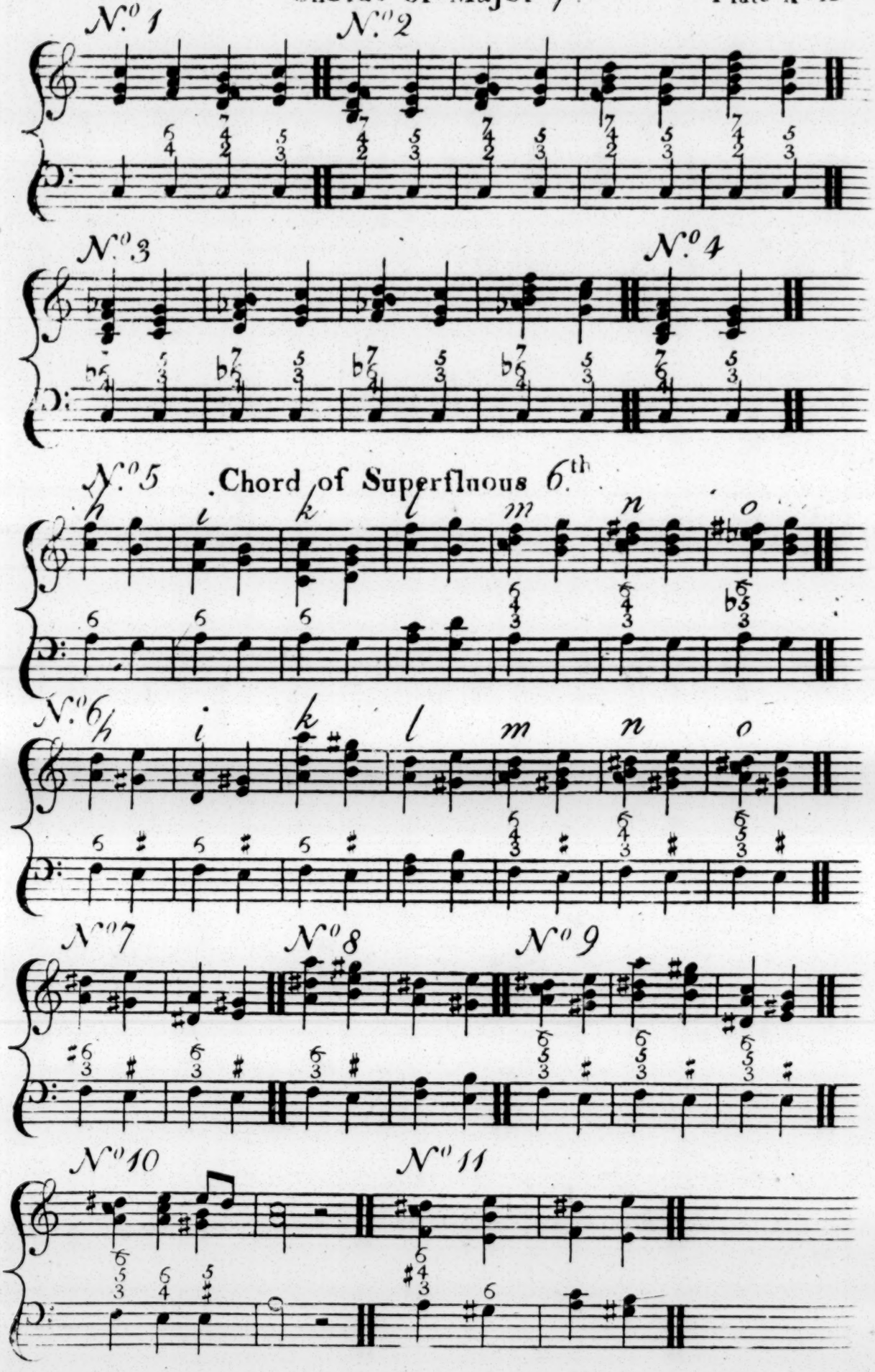
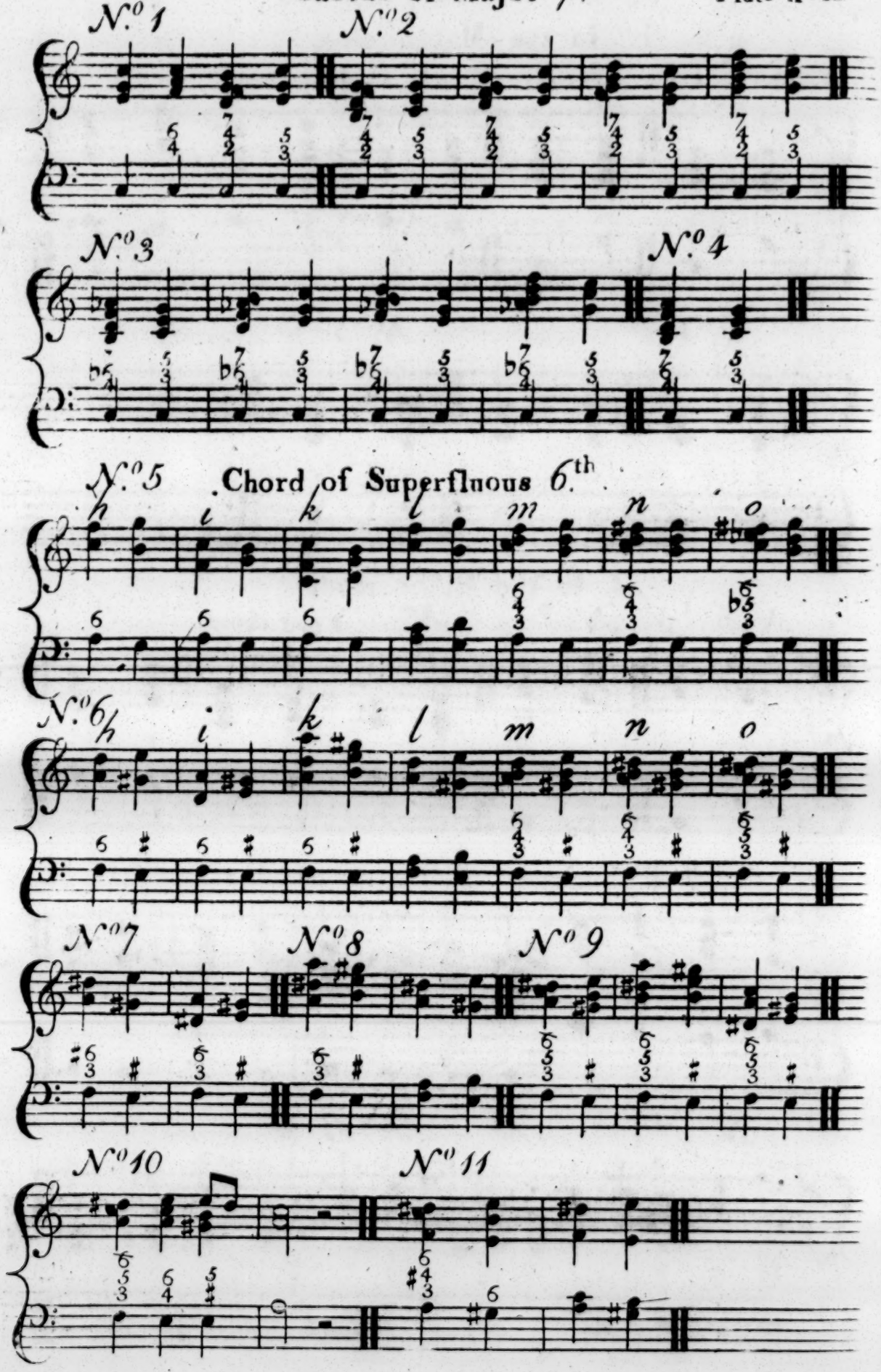


2. In the Minor mode.

Chords of Major 7th

borrowed by the chord of dominant; ſuch chords have been named chords of *borrowed harmony*.

138. When the ſubſtituted dominant is reſolved into the chord of the key, to which it properly leads, the ſubſtituted 6th falls to the 5th: the other notes obſerve the ſame courſe as they do in the regular chord of dominant. The ſenſible note riſes to the key, the 4th falls to the 3d, and the 2d either falls to the key, or riſes to the 3d. (81) See the examples referred to in the laſt paragraph.

139. As the 5th of the ſcale is the note in place of which another is ſubſtituted, it cannot exiſt in the chord but as the loweſt or baſs note. Even in this ſituation, it does not often appear, unleſs when ſome particular ſtrong expreſſion is wanted; for the moſt part, it is ſuppreſſed. The degrees of the ſcale, of which our chord is then compoſed, are ſenſible note, 2d, 4th, and 6th; that is, all the degrees of the ſcale, excepting the key note, and its two harmonics, the 3d and 5th: and whenever we find theſe four degrees of the ſcale combined in a chord, or even the ſenſible note and 6th by themſelves, we may conclude that it is a chord of ſubſtitution. When the

Chords of Major 7th

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chord is played to its proper fundamental, the intervals are 3d, 5th, 7th, and 9th; and it may be conſidered as a fundamental chord of the 9th. When the fundamental is ſuppreſſed, and the ſenſible note is the loweſt or baſs note, the intervals are 3d, 5th, and 7th. If this arrangement be conſidered as the original, or erect ſtate of the chord, (which it may, for the purpoſe of inſtruction), its ſeveral inverſions, like thoſe of every other chord of 7th, will be cyphered by the numbers $\frac{6}{5}$, $\frac{6}{4}$, $\frac{6}{4}$, in order, with the characters ♯, ♭, or ♮, when neceſſary, annexed.

1. *Chords of Substitution in the Major Mode.**

140. In the major ſubſtitution chord, the 3d *B D*, is a minor 3d; the 5th, *B* f, is a falſe 5th; and the 7th

* The terms, *Substitution* and *borrowed harmony* have generally been reſtricted, by Muſicians, to the Minor Mode; or to the taking the minor 6th of the ſcale, in place of the 5th, in a chord of dominant. As, however, the chord *B*, *D*, f, a, is, in its derivation, in the degrees of the ſcale of which it is compoſed, and in its reſolution, the very ſame in the Major Mode,

7th, *B* a, is a minor 7th. The contiguous intervals are two minor 3ds, *B D*, *D* f, and a major 3d, f a; the latter ſubſiſting betwixt the 5th and 7th of the chord or 4th and 6th of the ſcale: and the interval betwixt the 3d and 7th of the chord, or 2d and 6th of the ſcale, is a perfect 5th. As the chord, therefore, *D* f a, is harmonious in itſelf, it may be taken in all its three forms or poſitions, which will reſpectively lead to the three forms of the reſolving chord of the key. Plate XVI. No. 3. The firſt form, however, in which the ſubſtituted note is uppermoſt, is the moſt natural and pleaſing.

141. This chord may have two inverſions. Its 3d, or its 5th, may be brought down to the baſs, and the other notes played as chords; but its 7th, the ſubſtituted note, cannot well be brought down to the baſs, in the major mode. Theſe inverſions, with their cyphers and reſolutions, are ſhewn at Plate XVI. Nos. 4. and 5. The firſt inverſion is a chord of minor 3d, perfect 5th, and major 6th to the baſs note, which,

Mode, that $G^{\#}$, *B*, *D*, f, is in the Minor Mode: it ſeems moſt ſimple and natural, to claſs them together, under the ſame general denomination and deſcription.

which, being the 2d of the ſcale, may either fall or riſe in the reſolution. The ſecond inverſion is a chord of major 3d, tritone, and major 6th to the baſs note, which, being the 4th of the ſcale, muſt fall to the 3d, bearing a chord of 6th. Theſe inverſions ought to be played in the poſition in which they are written, the ſenſible note loweſt, and the ſubſtituted note uppermoſt. When they are taken in any other arrangement, their proper character and expreſſion is obſcured or loſt; and the hearer is apt to confound them with the ſubdominant chords of the relative minor ſcale, which are compoſed of the very ſame notes. In theſe chords, the 8ve to the baſs note may be played, for the purpoſe of reinforcing; in common caſes, however, it is more elegant to omit it.

2. *Chords of Substitution in the Minor Mode.*

142. In the Minor Subſtitution, or borrowed harmony chord *G*♯, *B*, *D*, f, (Plate XVI. No. 8.) the contiguous intervals *G*♯ *B*, *B D*, and *D* f, are all minor 3ds; and as the ſuperfluous 2d, f g♯, which compleats the 8ve to the baſs note, is in extent equal to a minor 3d; this chord may be ſaid to divide the 8ve into

into four equal intervals, of three ſemitones each. (40) The 5th to the baſs note, $G^{\#}$ D, is a falſe 5th, and the interval betwixt the 3d and 7th B f, is alſo a falſe 5th. The 7th to the baſs $G^{\#}$ f, is a diminiſhed 7th. This latter diſcord is duly reſolved by the contrary motion, by ſemitones approaching, into perfect 5th, A, E; its complement, the augmented 2d, being, in like manner, reſolved by the contrary motion, by ſemitones diverging, into perfect 4th. The chord may be played and reſolved in all its forms, as ſhewn at Plate XVI. No. 8.

143. This chord is capable of every inverſion: each of its notes, not excepting the ſubſtituted note, may be brought down to the baſs, and the others taken as chord. The inverted chords, too, may be played in all their poſitions. And hence this ſpecies of chords is much more free and extenſive in its uſe, in the minor, than it is in the major mode. In reſolving theſe chords into the chord of the key, care muſt be taken that each note, whether it exiſts in the baſs or in the upper parts, may move according to the law of its progreſſion. The ſenſible note muſt always riſe to the key note, and the ſubſtituted 6th, and the 4th of the ſcale, muſt fall reſpectively to the

5th.

5th and 3d. The 2d of the ſcale, the only note of the chord which has a liberty of choice, may, according to circumſtances, either fall to the key, or riſe to the 3d. And hence, when this note is in the baſs, the chord has a double reſolution; and the ſame double progreſſion of that note may take place in all the forms, in which it is either the higheſt or the loweſt of the notes, ſtruck with the right hand. An example of theſe chords and inverſions in the minor ſcale of A, with their cyphers and proper reſolutions into the chord of the key, is given in Plate XVI. Nos. 8, 9, 10, 11.—No. 8. is what has been conſidered as the erect chord: it is named the chord of the diminiſhed 7th, (with falſe 5th and minor 3d.) The baſs is the ſenſible note, which in the reſolution riſes to the key.—The figure 7, in the cypher of this chord, is ſometimes diſtinguiſhed by a daſh acroſs it. —No. 9. the firſt inverſion, is the chord of major 6th, and falſe 5th, (with minor 3d). The baſs note is the 2d of the ſcale, which either falls to the key or riſes to the 3d, bearing the chord of the key, and therefore to be cyphered 6 —No. 10. the ſecond inverſion is the chord of tritone, and minor 3d, (with major 6th). The baſs note is the 4th of the ſcale, which muſt fall to the 3d, bearing chord of 6th.—

No.

No. 11. the third inverſion is the chord of ſuperfluous 2d, (with tritone and major 6th). The baſs note is the ſubſtituted 6th of the ſcale, which muſt fall to the 5th, bearing the chord of the key, and therefore to be cyphered $\frac{6}{4}$.

144. From the above ſtatement of the intervals which enter into theſe chords, it appears, that the 2ds, are always ſuperfluous 2ds; the 3ds, minor 3ds; the 4ths, tritones; the 5ths, falſe 5ths; the 6ths, major 6ths; and the 7ths, diminiſhed 7ths. The minor, or flat 6th of the ſcale, in theſe chords, combined with their other intervals, and particularly with the ſenſible note, gives to them a particular ſtriking expreſſion of melancholy and dejection, which has brought them into great favour and frequent uſe, among the modern compoſers, who introduce them often into muſic of the major mode, by purpoſely altering notes, with a view to obtain their proper intervals. The intervals, too, being what have been called equivocal, ambiguous, or convertible intervals, (43) give to the chords a kind of ductility, or capability of change, by altering the names of their notes, which renders them a principal engine for effecting diſtant and ſurpriſing modulations. The diminiſhed

diminiſhed 7th, by changing the denomination of one of its terms, may be converted into the major 6th, and vice verſa.—and the like reciprocal converſion may take place betwixt the falſe 5th and the tritone, and betwixt the minor 3d and the ſuperfluous 2d.

II. CHORDS OF MAJOR 7TH.

145. The tonic or key note, when in the baſs, may have its own perfect chord. It may alſo have the chord of the 4th of the ſcale, or chord of $\frac{6}{4}$, of which it is a conſtituent note. Beſides theſe, however, when it is a holding or continued note, it may by licence, have the compleat chord of the 5th, or dominant, which is of courſe reſolved into the chord of the key, to the baſs ſtill holding. (Plate XVII. No. 1.) Here, it is evident, that the ſeveral notes of the dominant chord are major 2d, perfect 4th, perfect 5th, and major 7th, reſpectively, to the baſs note. It is named the chord of the major 7th, and cyphered $\frac{7}{4}_{2}$, the 5th being implied, and often omitted. As the baſs note is continued, it is neceſſary to cypher the reſolving chord of the tonic (90).

The

The dominant chord, when thus played to the key note, may be taken in any of its poſitions. Plate XVII. No. 2. The poſition in which the major 7th, or ſenſible note, is uppermoſt, is the moſt natural and pleaſing. The baſs note of this chord, being a harmonic interval, (a 5th) below the real fundamental of the chord, has been ſaid by ſome muſicians to be *ſuppoſed*; and the chord has been called a *ſuppoſitious* chord, or a chord of *ſuppoſition*. As the 7th to the fundamental muſt be at the interval of 11th from the baſs note, which is a 5th below the fundamental (32); this chord has been named by others, a chord of the 11th.

146. To give to this chord a more ſtriking and powerful effect, the minor 6th of the ſcale is frequently taken, by the modern compoſers, in place of the 5th: in other words, the minor ſubſtitution chord of dominant, is played to the key note; and the reſolution is made in the major, as well as in the minor mode. The intervals to the baſs note are then 2d, 4th, minor 6th, and major 7th. It may be called the ſubſtitution chord of the major 7th; and when it is cyphered, the minor 6th and major 7th muſt be particularly marked. This chord may be taken in any

of its poſitions, (Plate XVII. No. 3.) care being had to make the ſeveral notes proceed properly in the reſolution. As the ſubſtituted note, (a^{b}) is a 9th to the proper fundamental of the chord (*G*), it muſt be at the interval of 13th to the baſs note (*C*), which is a 5th below that fundamental. And hence this chord has been named by ſome muſicians, a chord of the 13th.—Theſe chords of major 7th may not only be played to the real tonic, or key note; but to other notes, which, in the progreſs of modulation, may be conſidered as tonics, or upon which regular cadences may be made.

147. The *Major* ſubſtitution chord of dominant, may be alſo played to the key note. This, however, does not appear ſo often in muſical compoſitions, in this ſituation, as the Minor ſubſtitution chord. See Plate XVII. No. 4.

III. CHORD OF SUPERFLUOUS 6TH.

148. The chord of ſuperfluous 6th, is a licence in the uſe of the firſt inverſion of the ſubdominant chord, in the minor mode, when that is to paſs into the

the perfect chord of the 5th, or dominant. It conſiſts in ſharpening the note which is 4th of the ſcale, or 8ve to the fundamental, while the baſs note, the 6th of the ſcale remains unaltered. This paſſage gives a ſtriking cadence, and frequently a pauſe or diviſion in the muſic, which however is never final, nor ſatisfactory, but leaves the hearer in expectation of ſomething that is to follow, and may therefore be called a *medial* cadence or cloſe, to diſtinguiſh it from one that is *final*.

149. In both the modes of muſic, it is uſual to take the 6th of the ſcale, for the baſs note of the leading chord of a medial cadence upon the 5th. This note and its 6th, or 4th of the ſcale, which is always a conſtituent note of the chord, proceed to the following chord by contrary motion, the former falling to the 5th or fundamental of the chord, while the latter riſes to its 8ve.

150. The different forms of medial cadence, from the 6th of the ſcale, in the two modes of muſic, are exhibited in a regular ſeries in Plate XVII. Nos. 5. and 6. in which the ſimilar forms, in the different modes, are marked by the ſame letters.—At h, in both modes,

the

the leading chord is the firſt inverſion of the perfect chord of the 4th of the ſcale, the intervals, of courſe, being 3d and 6th to the baſs note. The baſs note and its 3d fall reſpectively to the fundamental and 3d of the ſucceeding chord, while the 6th riſes to the 8ve. If the 3d of the leading chord, (the tonic of the ſcale,) be ſuppoſed to be doubled, the one uniſon may riſe to the 5th of the following chord, while the other falls to its 3d; and that chord may be played full. —At i, is the ſame paſſage in its other poſition. This is not ſo pleaſing as the former, as all theſe cadences produce the moſt agreeable effect when the 6th of the leading chord is uppermoſt.—At k, the 3d of the leading chord is doubled by 8ve, the upper term of which falls, while the lower term riſes.—At l, is a more pleaſing mode of doubling the 3d of the leading chord, and of filling up the following chord, by dividing the notes of them betwixt the two hands.—At m, the leading chord is filled up, or the diſcordant interval of the ſubdominant chord, (the 2d of the ſcale,) is taken in. This note of courſe holds in the following chord, while the other notes proceed as before. (85)

151. At n, the 6th to the baſs note, (4th of the ſcale,) is ſharpened, the other notes remain as at m. The object of this alteration, is to render the paſſage and reſolution more ſtriking, by obtaining the interval of tritone or falſe 5th, betwixt the tonic and ſharpened 4th, to be reſolved by the contrary motion of ſemitones. In the major mode, the ſubdominant chord at m, *A*—c d f, of which the fundamental is either the 4th or 2d of the ſcale, is changed at n, into *A*—c d f♯, a chord of major 6th, or ſecond inverſion of a chord of dominant (96), of which the only fundamental is the 2d of the ſcale; and the gradation upon the 5th is changed into a regular cadence upon that note. This is undoubtedly a more pleaſing tranſition; but it gives, for the time, the impreſſion of a change of key; which, however, the compoſer if he thinks proper, may afterwards counteract. (See 114.) At n, in the minor mode, No. 6, by ſharpening the 4th, the interval of tritone, or falſe 5th, to be reſolved by contrary motion, is alſo obtained; and in ſo far the chord reſembles a chord of dominant. It, however, contains alſo another interval, which does not belong to the chord of dominant, and which is felt as a ſtill ſeverer diſcord, viz. that of *ſuperfluous* 6th, betwixt the baſs note and the ſharpened

4th,

4th, which is reſolved into the perfect harmony of 8ve, by contrary motion, by ſemitones. This interval gives to this form of the chord a peculiar character and denomination. It is called the chord of ſuperfluous 6th, and is the ſpecies of chord, which was propoſed to be explained, in this ſection. The double reſolution of diſcord into harmony, by the contrary motion of ſemitones, gives a very ſtriking and agreeable effect to this paſſage, which has brought it into great favour with the modern compoſers.

152. At o, in both the modes, the minor 3d. of the ſcale is *ſubſtituted* in the room of the 2d; the other notes remain as at n. The ſubſtituted note falls a ſemitone in the reſolution, while the others proceed as before. This chord, in the major mode, or when the baſs note is the major 6th of the ſcale, is evidently a chord of minor ſubſtitution or borrowed harmony; and is that particular form of it, which has been called the 1ſt inverſion of the chord of diminiſhed 7th, (143.) the intervals to the baſs note being major 6th, and falſe 5th, with minor 3d. In the minor mode, or when the baſs note is the minor 6th of the ſcale, all theſe intervals are, of courſe, enlarged by chromatic ſemitone, and are therefore ſu-

per-

perfluous 6th, perfect 5th, and major 3d; as at n, in the minor mode, the intervals are ſuperfluous 6th, tritone and major 3d.

153. It appears then, that the chord of ſuperfluous 6th, has for its baſs note, the minor 6th of the ſcale for the time; and that the note which forms with this baſs note the interval of ſuperfluous 6th, is the 4th of the ſcale, purpoſely ſharpened. With theſe is joined the major 3d to the baſs note or tonic of the ſcale. This forms, with the ſharpened 4th, the interval of tritone, when it is below it, or of falſe 5th, when it is above it, which intervals are reſpectively reſolved into minor 6th and major 3d; while, by the baſs note deſcending a ſemitone, the interval of ſuperfluous 6th, is reſolved into 8ve, (Plate XVII. No. 7.) In ſongs, and other muſic, in which a ſoft and delicate accompaniment is required, no more notes are generally taken, in this chord and reſolution, than what are written in theſe laſt examples. The chord is then the proper Italian 6th. When a reinforcement or emphaſis is required, the 3d may be doubled, or its 8ve added, as at No. 8. In inſtrumental muſic, and even in vocal muſic, where a ſtill ſtronger expreſſion is wanted, it is uſual to add another *real* note

to

to this chord. This may be the tritone to the baſs note or 2d of the ſcale, as at No. 6. n, that being a conſtituent note, and ſometimes conſidered as the fundamental of the ſubdominant chord, from which our chord is derived. Although, however, this combination is generally preſcribed and exemplified by maſters, it very ſeldom appears in muſical compoſitions. The double tritone which occurs in it, gives it a harſh and unpleaſant effect. It has, therefore, become the general practice, amongſt the beſt compoſers, to ſubſtitute for this note the minor 2d above it, or the note which is minor 3d of the ſcale, and perfect 5th to the baſs note; that is, to adopt the form No. 6, o, in place of the one at n. Here, beſides the ſuperfluous 6th and tritone, we find another diſcordant interval, viz that of ſuperfluous or augmented 2d, ſubſiſting betwixt the ſubſtituted note and ſharpened 4th of the ſcale, which is duly reſolved, by contrary motion, into perfect fourth. Thus, each of the four notes, of which this chord is compoſed, moves a ſemitone in the reſolution, the baſs note and its 3d and 5th deſcending, while the ſuperfluous 6th aſcends. The 8ve to the baſs note can ſcarcely be admitted into this chord. The other notes may be taken in any of their three forms or

po-

poſitions, which will reſpectively lead to the three poſitions of the reſolving chord No. 9. The firſt of theſe is the moſt natural and pleaſing. In the third form, the augmented 2d is inverted into a diminiſhed 7th, which is reſolved by contrary motion into perfect 5th.*

153. The particular expreſſion of theſe chords, and the number of ſemitonic movements which take place in their reſolution, have led muſicians to introduce them frequently into muſic of the major mode. They do this by flattening the 6th of the ſcale, for the time, and occaſionally alſo the 3d, and combining theſe with the key note and ſharpened 4th. If, in

* Although theſe are the proper and natural progreſſions of the ſeveral notes of our chord, Compoſers are in uſe frequently to interrupt, for a time, or ſuſpend ſome of them, particularly the 3d and 5th of the chord. They thus obtain a chord of $\frac{6}{4}$, to the new baſs, (5th of the ſcale), which afterwards paſſes into that of $\frac{5}{3}$, the proper chord of reſolution. See Plate XVII. No. 10. By this means they avoid the conſecution of 5ths, which however, being occaſioned by the reſolution of a diſcord, does not give great offence. This ſuſpenſion is chiefly practiſed when the chord of ſuperfluous 6th is introduced, as a ſubdominant chord, to prepare a cadence or cloſe.

the leading chords, at n, o, No. 5. the baſs note *A*, be lowered a ſemitone, or changed into *A*♭, it is evident that the chords will be, in every reſpect, ſimilar to the correſponding chords at n, o, No. 6. the intervals of the former being then major 3d, tritone, and ſuperfluous 6th; and thoſe of the latter being major 3d, perfect 5th, and ſuperfluous 6th. In like manner, if *F*, the baſs note of the leading chords at n, o, No. 6. be raiſed a ſemitone, or made *F*♯, the chords will be rendered ſimilar to thoſe at n, o, No. 5. the one being then chord of minor 3d, perfect 4th, and major 6th, or ſecond inverſion of the chord of dominant; and the other, being chord of minor 3d, falſe 5th, and major 6th, or firſt inverſion of the chord of diminiſhed 7th.

154. The different forms of medial cadence, ſhewn at Nos. 6, 7, 8, and 9, may be uſed in accompanying the minor deſcending ſcale. (See 117.) The forms at h, i, k, l, m, No. 6, in which the 4th of the ſcale is unaltered, are now conſidered as ſomewhat antiquated, and ſeldom appear but in eccleſiaſtical, or other ſerious muſic. The others being thought to give the muſic

muſic an air of modern refinement, are more frequently uſed.*

155. The ſuperfluous 6th and minor 7th, being of the ſame extent, are mutually convertible; and by ſuch converſions, unexpected tranſitions of the muſic, into diſtant keys, may be effected.

GAME

* This chord is ſeldom or never inverted.—An inſtance, however, of its inverſion, occurs in the 4th bar of the ſecond part of the Minuet Trio of Haydn's 8th Symphony, compoſed for Salomon's Concert, in which the baſs takes the tonic. This is exhibited in Plate XVII. No. 11. where this inverſion is firſt given with cyphers, and afterwards in the form in which it is introduced by Haydn.

GAME VI.

RESOLUTION OF DISCORDS, AND CHORDS BY LICENCE.

PART II.

If, inſtead of uſing the pairs of dice No. 3, as in the firſt part, the player with ſharps takes the minor die of No. 3, and the minor die of No. 4, and the player with flats takes the minor die of No. 3, and the major die of No. 4, a variety of intervals may be obtained, which do not appear in the pairs No. 3, by means of which, the exerciſe of the game may be extended to ſome of the more intereſting harmonical combinations of the modern muſic.

But as the dice uſed in this game may ſometimes preſent two notes which are incompatible, or which cannot

cannot exiſt together in muſic, as the diſcordant intervals, which they may at other times preſent, may be conſidered as ariſing from appogiaturas, or notes of grace and expreſſion, rather than as indicating any diſtinct ſpecies of chord, and as of ſome of the intervals which may enter into this game, the number in the ſharp dice is not equal to that in the flat dice, with a view to ſimplify and equaliſe the party, the winning throws for the ſharps and for the flats may be reſtricted to thoſe which follow, and all the other throws which may occur, are to be conſidered as loſt.

Sharps.	Flats.
1 Minor 9th	1 Superfluous 9th
1 Superfluous 8ve	1 Superfluous 8ve
1 Major 7th	1 Major 7th
1 Diminiſhed 7th	1 Diminiſhed 7th
2 Diminiſhed 3ds	2 Superfluous 6ths
1 Superfluous 5th	1 Superfluous 5th, viz. Bbb F
3 Falſe 5ths	3 Tritones
2 Superfluous 2ds	2 Superfluous 2ds Cb D
—	— Bbb C
12	12

The ſuperfluous 8ve and ſuperfluous 5th, are to be ſet up and reſolved, as in Plate XV. Nos. 15 and 21; the

the player taking two large counters for the firſt, and one for the ſecond, according to the rules of the former part of the game. The remaining ten intervals are to be conſidered as indicating, in this game, one or other of the four chords by licence, mentioned in the foregoing Chapter, and are to be treated in the following manner.

1. *Chord of Substitution in the Major Mode.*

Falſe 5ths and tritones are to be conſidered, in this game, as indications of this chord. When either of theſe intervals are preſented by the dice, it is firſt to be ſet up on the clavier and reſolved, without taking, for the preſent, any advantage for ſuch reſolution. The player is afterwards to proceed to ſet up the compleat major ſubſtitution chord, and to reſolve it, as follows.

He muſt throw his die of ſignatures without notes, and the ſubſidiary die, No. 5, bearing upon one of its faces a chord in notes, and upon its other faces

faces the cyphers $\frac{9}{7}\ \frac{7}{5}\ \frac{6}{5}\ \frac{6}{4}\ \frac{6}{4}$.* The die of ſignatures is to decide the key into which the chord is to be reſolved, and the face of the ſubſidiary die which turns up, is to point out the particular poſition, or inverſion, of the chord which is to be ſet up. The player muſt then reſolve the ſeveral intervals of the chord into that of the key, according to the rules in the foregoing Chapter, and the examples in Plate XVI. Nos. 2, 3, 4, and 5. If he does this correctly he ſhall take a large counter for every movement by ſemitone, and ſix ſmall counters for every movement by tone, made in the reſolution; but if he fail, and the adverſary can correct the miſtake, he ſhall be entitled to the advantage accruing to each movement he can thus correct.

2.

* This die is properly calculated for the *Minor* ſubſtitution chord, the cyphers of diminiſhed 7th and ſuperfluous 2d being applicable to that chord only. The diminiſhed 7th, therefore, is here to be conſidered as a minor 7th, and when the face $\frac{6}{4}$, or the chord in notes (both which are inapplicable to the preſent chord), are caſt up, the player muſt throw until he obtain ſomething elſe.

2. Chord of Substitution in the Minor Mode.

Diminiſhed 7ths, ſuperfluous 2ds, the ſuperfluous 9th, (the compound interval of 8ve and ſuperfluous 2d), and the minor 9th, are all to be conſidered here as indications of this chord. The interval preſented, is to be ſet up and reſolved as in the preceding chord; after which the player proceeds to ſet up the compleat minor ſubſtitution chord, in the key indicated by the die of ſignatures without notes, and in the poſition to be indicated by the ſubſidiary die above deſcribed; reſolving the different intervals of his chord into that of the key, according to the rules given in the laſt Chapter, and the examples in Plate XVI. Nos. 7, 8, 9, 10, and 11; and taking the ſeveral advantages for each movement in the reſolution, or if he fail, the adverſary, as before mentioned.

But when a minor 9th is preſented, the player is to throw the die of ſignatures alone, to determine the key into which his chord ſhall be reſolved; and the chord to be ſet up muſt be a fundamental chord of 9th, (Introduction 139.) conſiſting of the funda-

mental, its major 3d, perfect 5th, minor 7th, and minor 9th, which is to be reſolved as in Plate XVI. No. 7. and the advantages taken for the reſolution as before mentioned.

When, in the courſe of throwing the ſubſidiary die, the face with the chord in notes ſhall caſt up, the player, after having ſet up and reſolved the diſcord which he had previouſly thrown, muſt give an account of the derivation of ſubſtitution chords, from the fundamental chord of 9th, laſt above-mentioned, ſupplying the intervals of that chord which are not inſcribed on the die, and muſt exhibit theſe chords in their different inverſions upon the clavier, reſolving each into the chord of key. If he performs this taſk correctly, he ſhall be entitled to four large counters; if he fails, and the adverſary can perform it, he may claim that advantage.

3. *Chord of Major 7th.*

When the interval of Major 7th is preſented, the player muſt join to it the remaining intervals which conſtitute

conſtitute the compleat chord of major 7th, conſidered as leading, or to be reſolved into the perfect chord of the lower note, in any of the four poſitions at No. 2. Plate XVII. which the adverſary may require. Upon doing this correctly, he ſhall be entitled to all the advantages of the different movements, as before mentioned.

Or the player, if he chuſes, may conſtruct and reſolve the chord of major 7th, as at No. 3. Plate XVII. in which caſe he muſt alſo ſhow the derivation of the two chords of ſuppoſition or major 7th, (or as they are ſometimes called chords of the 11th and 13th), from the chords of dominant and ſubſtitution, as at 145. and 146. in the foregoing Chapter. If he performs this correctly, he ſhall be entitled to three counters, and if he fail, the adverſary.

4. *Chord of Superfluous 6th.*

When a ſuperfluous 6th is preſented, the player muſt ſet up the ſame interval by moveable notes upon his

his clavier, and muſt tell the key note or fundamental of the ſcale, in which the two notes which he has ſet up would be ſuperfluous 6th, and alſo what degrees of that ſcale the two notes are; being allowed, if he chuſes to change the denomination of the notes from ſharp to flat, or from flat to correſponding ſharp. He is then to reſolve the diſcord, according to the foregoing rules.

The player with ſharps has no interval of ſuperfluous 6th, afforded by his dice; and therefore, when he throws a diminiſhed 3d, he is firſt to invert the ſame into its complement, the ſuperfluous 6th, and then proceed as above.

After reſolving the ſuperfluous 6th, the player muſt proceed to ſet up the chord, in the following manner.—He muſt throw his die of ſignatures without notes, to determine the key in which his chord is to be ſet up; and in order to decide the model, according to which the intervals are to be inſerted in the chord, he muſt, together with the above die, throw the die No. 5. bearing upon its faces, in cyphers

phers and notes, the chords 3 ♯6†—3 4 6,—and 3 5 ♯6; and having ſet up the chord in the form indicated, either in notes or cyphers, by the face of the die turned up, he muſt make the ſeveral notes of it paſs into the perfect major chord of 5th, according to the rules in the foregoing Chapter, and the examples in Plate XVII. No. 6. n, o, and Nos. 7, 8, and 9, in that poſition of the chord which the adverſary may require. Having done this, he is to take the advantages for each movement made in the reſolution, as before mentioned; or if he fail, the adverſary.

The player who ſhall firſt ſet up twelve large counters, wins the game.

GAME

† The face of the die, bearing the notes of the chord 3, ♯6, has, by a miſtake in the engraving, the tritone g c♯, inſtead of that of a d♯.

GAME VII.

ON MODULATIONS.

INTRODUCTION.

A Modulation is ſaid to be made, when the muſic paſſes into a key or ſcale, different from that in which it formerly was ; or when ſome other note appears, for a time, as the tonic or governing fundamental. A new key is introduced and eſtabliſhed, when its chord of dominant enters into the muſic : in other words, when there occur the notes of a chord of major 3d, perfect 5th, and minor 7th, whoſe fundamental is the 5th to the new tonic, and which therefore

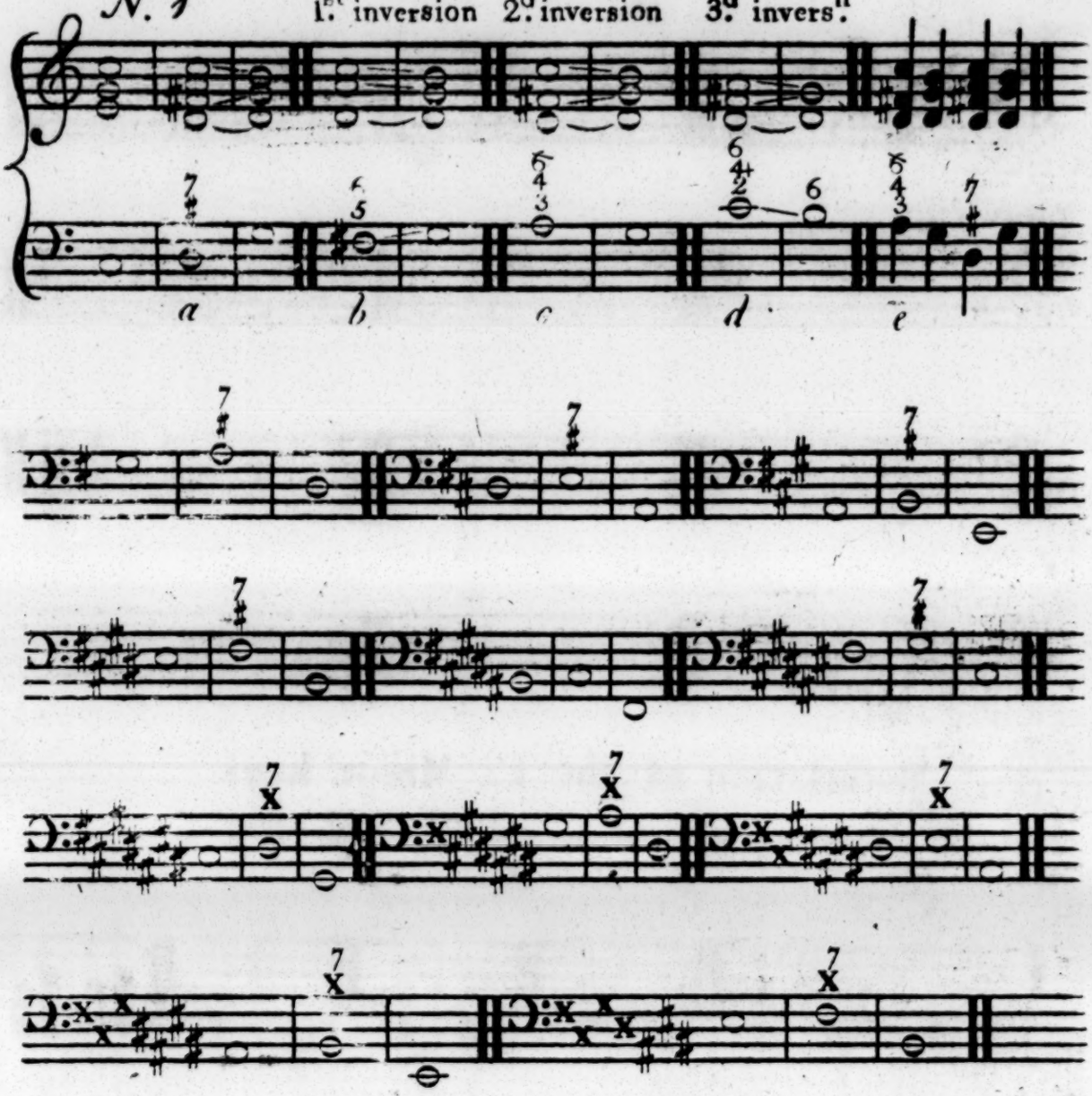
fore leads in regular cadence to its perfect chord. The moſt remarkable intervals of ſuch chord of dominant, are its 3d, and its 7th, one or other of which muſt, for the moſt part, be altered from the ſtate in which it was before. The 3d muſt often be ſharpened, that it may be a major 3d to its fundamental and ſenſible note of the new ſcale; or the ſeventh muſt be flattened, that it may be a minor 7th to its fundamental and perfect 4th of the new ſcale.

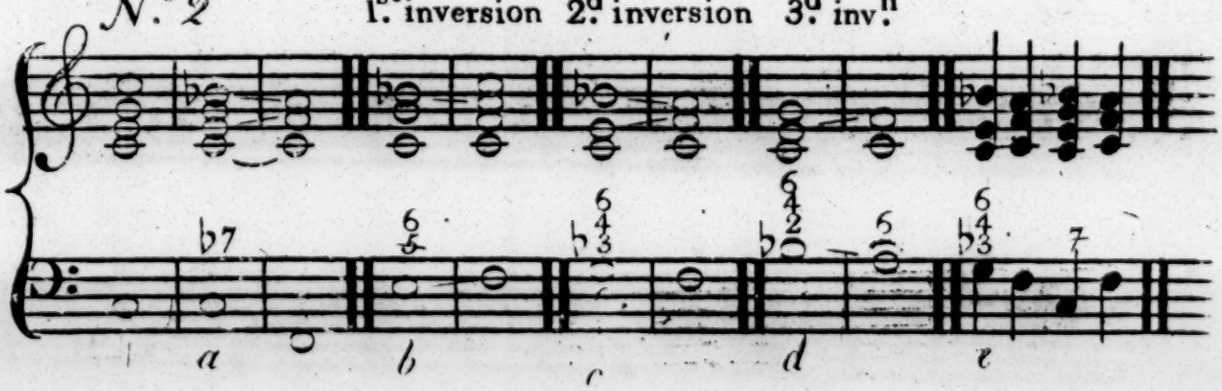
The moſt natural, and the moſt frequent modulations in muſic, are from any key to that which ſtands next to it, on either ſide, in the ſyſtem or circle of keys; that is, to the key whoſe fundamental is 5th above, or to that whoſe fundamental is 5th below, or 4th above (50). Theſe keys have been called its *adjuncts*. The fundamental of a chord of dominant, which will lead by regular cadence to the adjunct 5th, is the 2d of the ſcale; the major 3d of that chord is the ſharpened 4th, and the 5th and 7th are reſpectively the 6th and tonic of the original ſcale. Thus, if the key is the major of C, the chord above deſcribed will be *D* f♯ a c; and if this chord, or f♯, along with one or more of its other notes, be introduced into the muſic, it will lead to the perfect chord

of

Modulation of the 12 Major keys Plate XVIII

according to the progreſsion by 5.ths

N.o 1 1.st inversion 2.d inversion 3.d inversn.

Modulation according to the progreſsion by 4.ths

N.o 2 1.st inversion 2.d inversion 3.d invn.

fore leads in regular cadence to its perfect chord. The moſt remarkable intervals of ſuch chord of dominant, are its 3d, and its 7th, one or other of which muſt, for the moſt part, be altered from the ſtate in which it was before. The 3d muſt often be ſharpened, that it may be a major 3d to its fundamental and ſenſible note of the new ſcale; or the ſeventh muſt be flattened, that it may be a minor 7th to its fundamental and perfect 4th of the new ſcale.

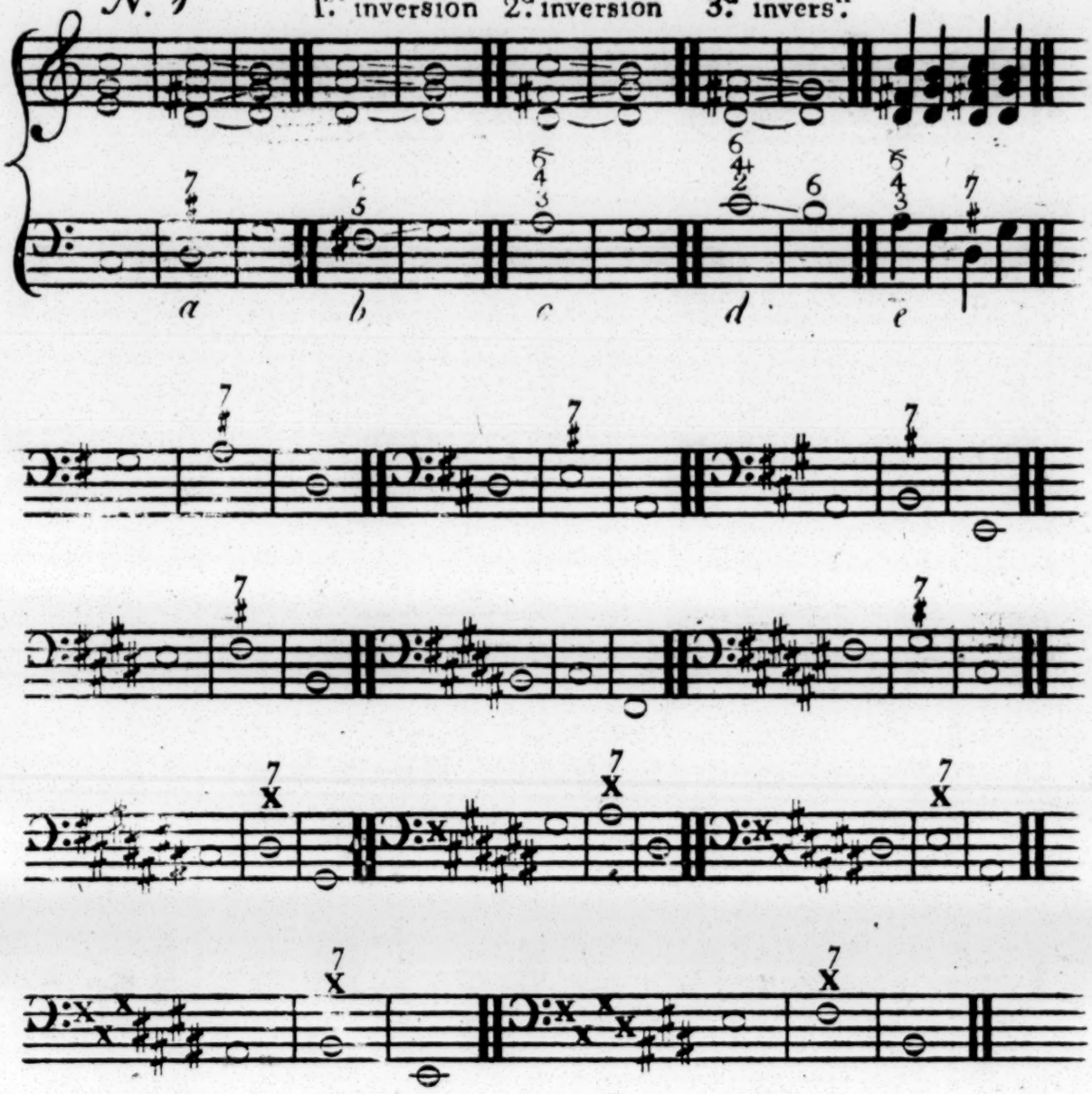
The moſt natural, and the moſt frequent modulations in muſic, are from any key to that which ſtands next to it, on either ſide, in the ſyſtem or circle of keys; that is, to the key whoſe fundamental is 5th above, or to that whoſe fundamental is 5th below, or 4th above (50). Theſe keys have been called its *adjuncts*. The fundamental of a chord of dominant, which will lead by regular cadence to the adjunct 5th, is the 2d of the ſcale; the major 3d of that chord is the ſharpened 4th, and the 5th and 7th are reſpectively the 6th and tonic of the original ſcale. Thus, if the key is the major of C, the chord above deſcribed will be *D* f♯ a c; and if this chord, or f♯, along with one or more of its other notes, be introduced into the muſic, it will lead to the perfect chord

of

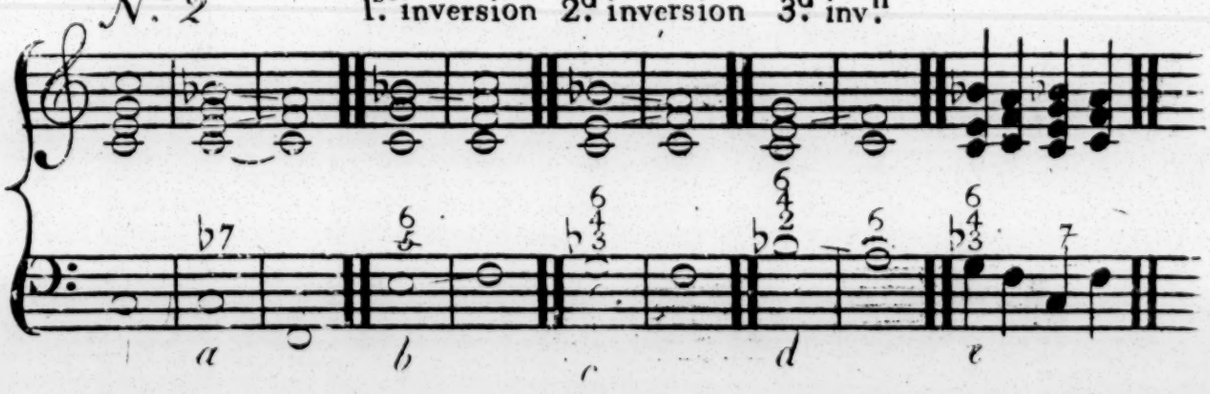
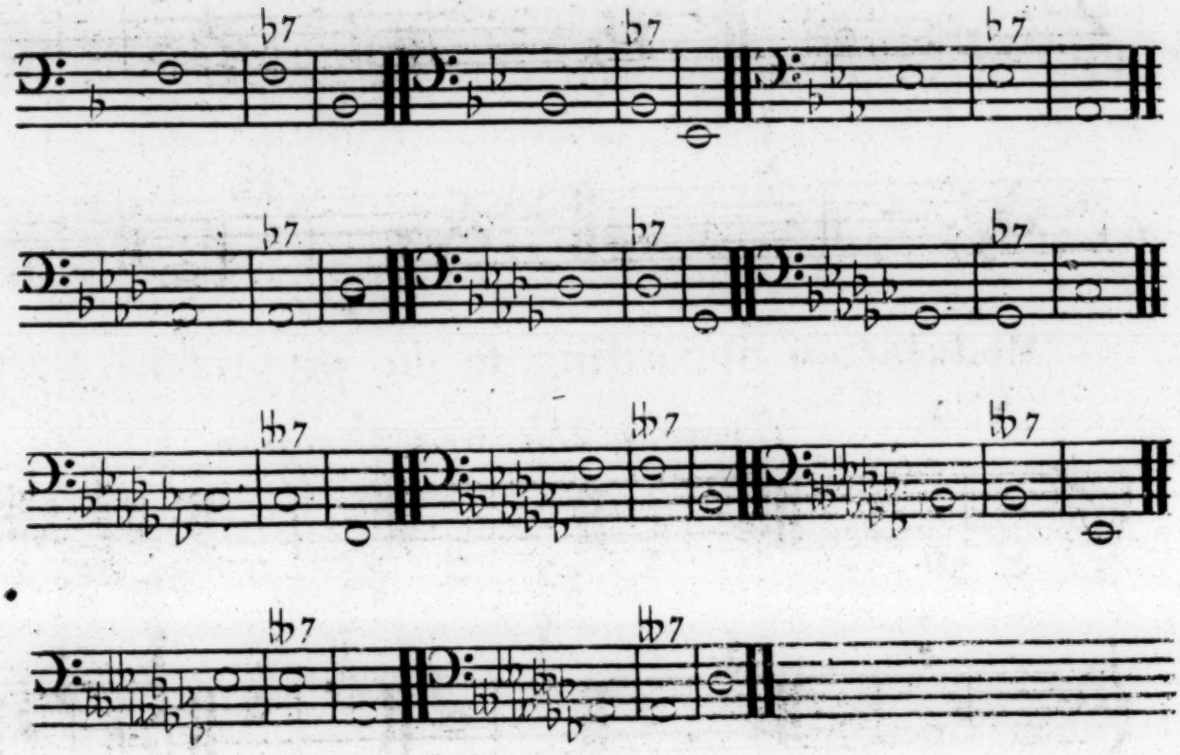
To face P. 240.

Modulation of the 12 Major keys Plate XVIII

according to the progreſsion by 5.ths

N.o 1 1.st inversion 2.d inversion 3.d invers.n

Modulation according to the progreſsion by 4.ths

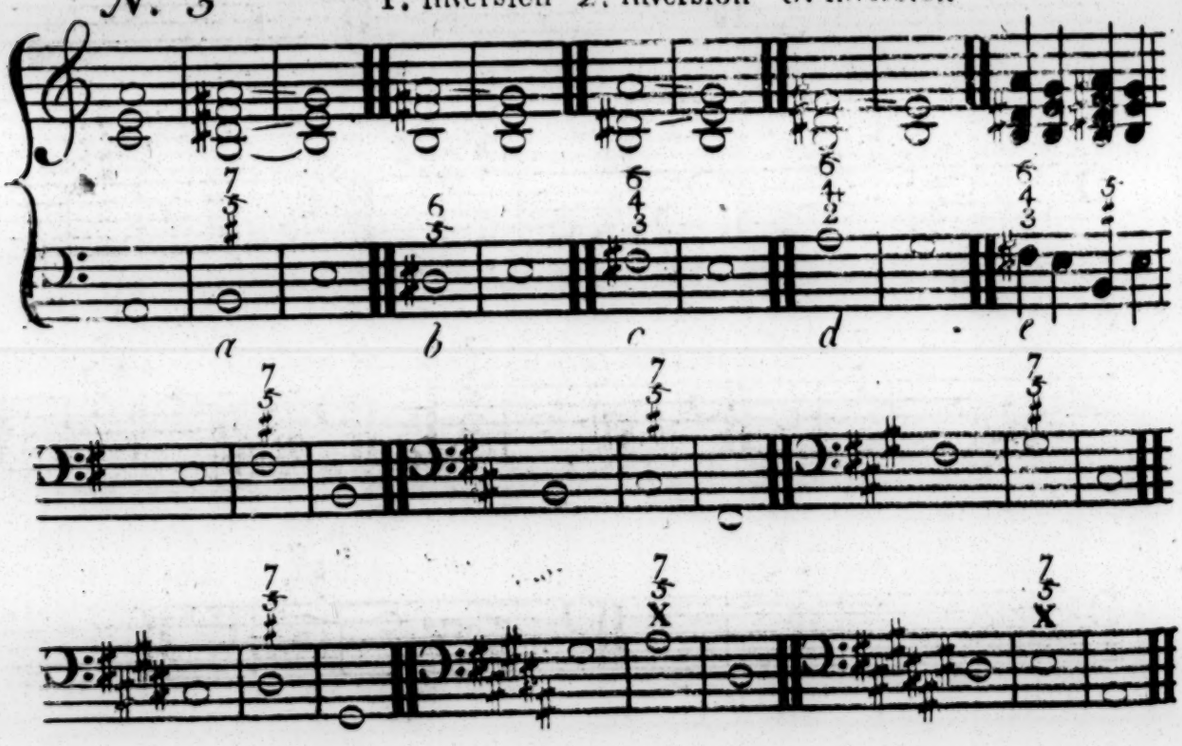
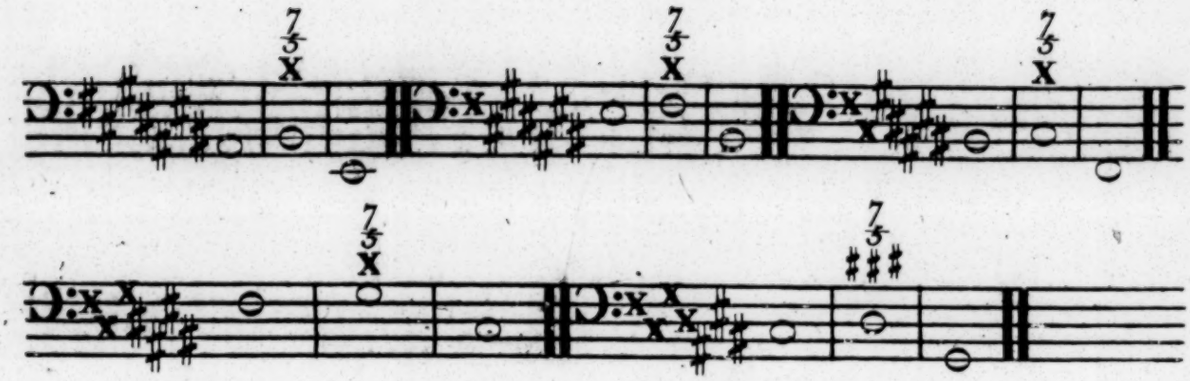
N.o 2 1.st inversion 2.d inversion 3.d inv.n



Modulation of the 12 Minor keys

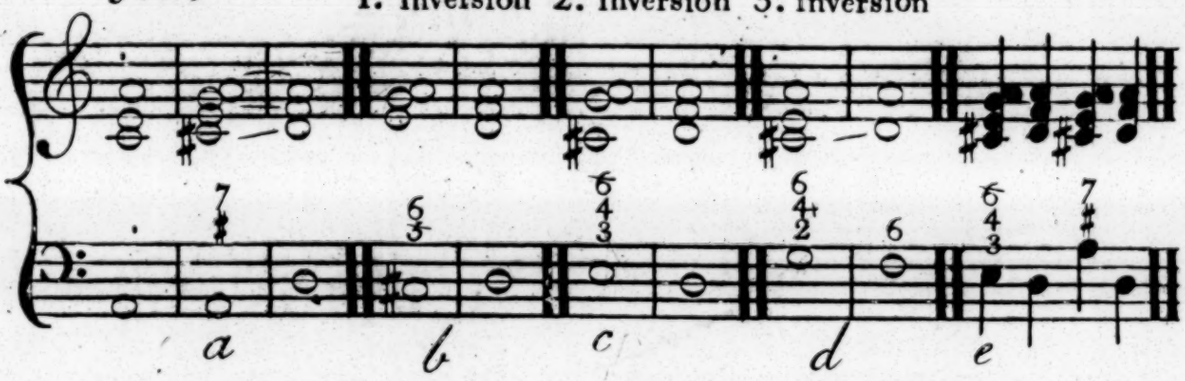
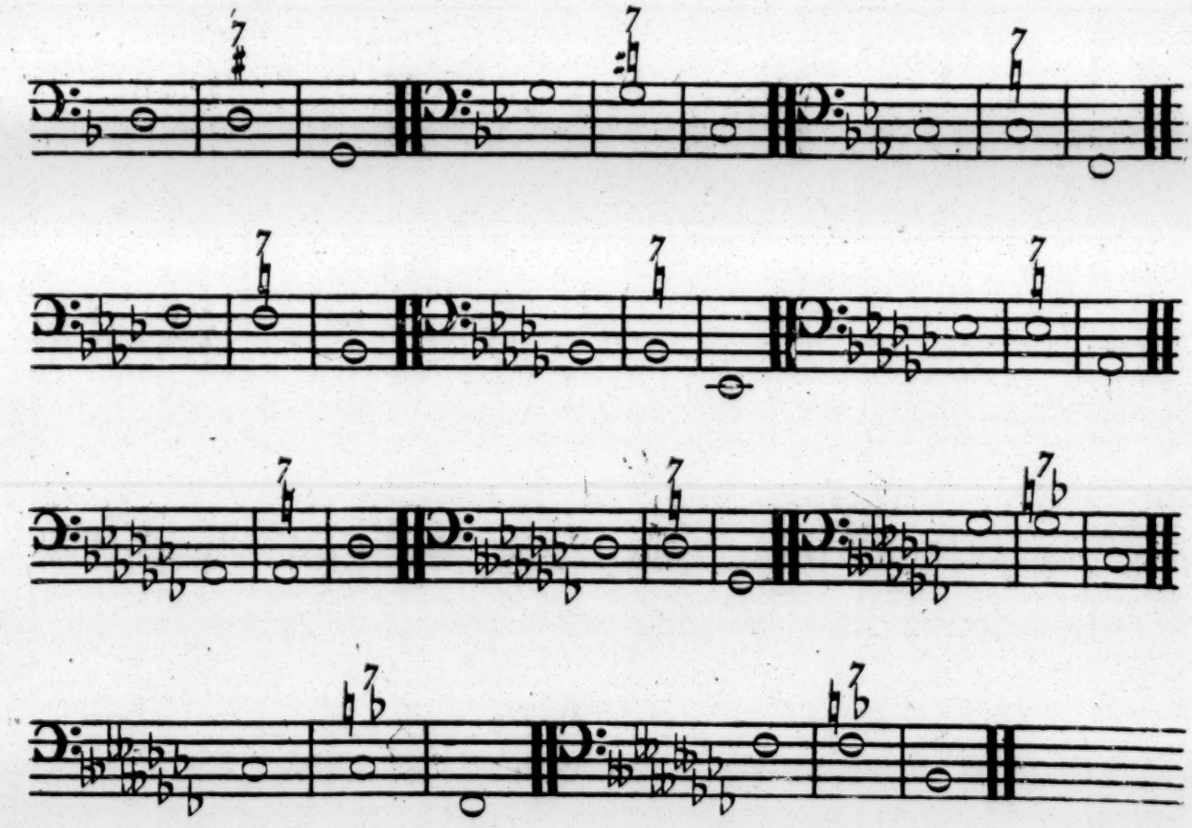
according to the progreſsion by 5.ths

N.o 3

1.st inversion 2.d inversion 3.d inversion

Modulation according to the progreſsion by 4.ths

N.o 4

1.st inversion 2.d inversion 3.d inversion



of the adjunct 5th, G, and will conſtitute that note as a temporary tonic or key note.—Any poſition or inverſion of the leading chord, may be employed for making ſuch modulation. The baſs note may either be the 2d of the ſcale, bearing the erect chord of major 3d and 7th, Plate XVIII. No. 1. a; or it may be the ſharpened 4th of the ſcale, bearing a chord of falſe 5th (95), Plate XVIII. No. 1. b; or the 6th of the ſcale bearing a chord of major 6th (96 and 114.) Plate XVIII. No. 1. c; or laſtly, the tonic of the ſcale, bearing a chord of tritone (97), Plate XVIII. No. 1. d. The three firſt of theſe baſs notes may paſs immediately into the fundamental of the following chord, or the new tonic; but the laſt muſt paſs to the 3d of that chord. The phraſe may be compleated, by repeating the leading chord to another baſs note, or by any common cadence, Plate XVIII. No. 1. e.—In making the ſame modulation in the minor mode, the ſharpened 6th of the ſcale muſt be taken in the leading chord, as well as the ſharpened 4th, in order that the chord may have a perfect 5th. Thus the dominant *B*, *D*♯, f♯, a, will lead to the perfect minor chord of E, the adjunct 5th to the minor key of A. Plate XIX. No. 3. a. The ſame modulation may be made by any of the inverſions of

this chord, as in the major mode, before-mentioned. See Plate XIX. No. 3. b, c, d.

Modulation into the key of the adjunct 4th, is made by adding to the chord of the tonic its minor 7th. It is thus converted into a chord of dominant, which will proceed by regular cadence to the perfect chord of the 4th. (See 111.) In the major mode, the added 7th of the chord, or 7th of the ſcale, muſt be flattened. Thus the key being the major of C, the dominant chord *C*, *E*, g, b♭, will lead to the chord and key of the 4th F. This dominant chord may alſo be taken in any poſition or inverſion. The baſs note may either be the tonic, with the erect chord, or it may be the 3d, or the 5th, or the minor 7th of the ſcale, bearing reſpectively chords of falſe 5th, major 6th, and tritone, as at Plate XVIII. No. 2. b, c, d.

In making the ſame modulation in the minor mode, the 3d of the chord of the tonic muſt be ſharpened, that it may be the proper third of the dominant, and ſenſible note of the new ſcale; and the key being the minor of A, the dominant chord A, C♯, E, g, will lead to the chord of the 4th D. Plate XX. No. 4. a. The ſame modulation is alſo made by the inverſions of this chord. Plate XX. No. 4. b, c, d.

PART

GAME VII.

PART I.

Modulations in the Major Mode.

THIS part of the Game affords an exerciſe upon regular Modulation in the major mode; or on the method of paſſing from any key to the key of its 5th, towards the one hand, or to the key of its 4th, towards the other hand.

It is to be played upon the circles of major fundamentals, which are upon the outer rim of the borders that ſurround the two tables*; the one player going along that which has ſignatures of ſharps, and the other going along that which has ſignatures of flats. (Introduction 67.) The object

* See the Frontiſpiece.

object of the former is to proceed ſucceſſively, by regular chords, through all the keys, according to the order by 5ths; and the object of the latter is to proceed in a ſimilar manner, through all the keys, according to the order by 4ths. The player who firſt compleats his round, wins the game.

The dice uſed in this game are the pair No. 6. in the 4th compartment of the flat drawer, which bear upon their faces thorough baſs cyphers, and the characters of ſharp, flat, and natural; of which the one which has the character ♯, upon two of its faces, is to be uſed by the player, who is to proceed by 5ths through the keys with ſharp ſignatures; and the one which has upon two of its faces the character ♭, is to be uſed by the other player—as alſo, the die of lines or incomplete ſtaves.

Each player ſets one of the travelling pins, which lie in the 5th compartment, in C upon the border, and at the ſame time puts up the common chord of that key, upon his clavier; and whenever another key is gained or paſſed into, upon the clavier, the pin is moved into its fundamental.

A new key is gained, when ſuch a figure is preſented by the die, as directs to play or ſet up the chord of dominant, or leading chord of a regular cadence upon that key.

When the dies preſent a ♭7, or ♮7, the minor 7th to the baſs note of the perfect chord, which is then upon the clavier, is to be added, or inſerted amongſt the notes of that chord. It thus becomes a chord of dominant, or the leading chord of a regular cadence upon the 4th of the former key, or the next key according to the order by 4ths; and is accordingly to paſs, or to be reſolved into that key, and the pin is to be moved into its fundamental. (Plate XVIII. No. 2. a.)

When a tritone is caſt up, the chord of tritone to the baſs note of the preſent key, is to be played; or the notes of the chord muſt paſs into thoſe which are at the interval of major 3d, perfect 5th, and 8ve, to that note which is ſecond to the baſs note. This being duly reſolved leads into the next key, according to the order of ſucceſſion by 5ths, into which accordingly it is to paſs, and the pin is to be moved into its fundamental. (Plate XVIII. No, 1. d.)

A ✻, being caſt up, is an indication that a ſharp is to be added to the ſignature of the key, which is then upon the clavier, or that a modulation is to be made into the next key of the order by 5ths. On the other hand, a ♭, being caſt up, is an indication that a flat is to be added to the ſignature of the key, which is then upon the clavier, or that a modulation is to be made into the next key, according to the order by 4ths. In executing theſe modulations, the chord of dominant, or leading chord, may be played or ſet up, either in its erect form, or in any one of its three inverſions. To determine which of them is to be uſed, the die of lines or broken ſtaves muſt be thrown, which will ſhew the range of movement to be allowed to the baſs note.

In the progreſſion by 5ths, the movements of the baſs are to be the following. 1. When one line is caſt up, the baſs does not move, and the modulation muſt be made by the third inverſion or chord of tritone, as at Plate XVIII. No. 1. d. 2. When one line and a half is caſt up, the baſs muſt move a 2d, and the modulation is made by the erect poſition of the leading chord, as at Plate XVIII. No. 1. a. 3. When two lines and a half are preſented, the baſs muſt

muſt move to the ſharpened 4th, and the modulation be made by the firſt inverſion of the leading chord, or chord of falſe 5th, as at Plate XVIII. No. 1. b. 4. When four lines caſt up, the baſs muſt move a 6th, and the modulation is performed by the 2d inverſion of the leading chord, or chord of major 6th, as at Plate XVIII. No. 1. c.

In the progreſſion by 4ths, the movements of the baſs are to be the following. 1. When one line is caſt up, and the baſs of courſe does not move, the modulation is made by the erect poſition of the leading chord, Plate XVIII. No. 2. a. 2. When two lines are preſented, and the baſs muſt conſequently move a 3d, the modulation is performed by the firſt inverſion of the leading chord, Plate XVIII. No. 2. b. 3. When three lines caſt up, the baſs muſt move a 5th, and the modulation be made by the ſecond inverſion of the leading chord, Plate XVIII. No. 2. c. 4. When four lines are caſt up, the baſs muſt move to the flattened 7th, and the modulation be made by the third inverſion of the leading chord, or chord of tritone, Plate XVIII. No. 2. d.

When

When either player turns up a face of the die of lines, which does not correſpond to the above mentioned movements of his baſs, he is allowed to throw until a proper one is preſented.

When the player upon the ſignatures of ſharps turns up a ♮, he muſt take off a ſharp from his ſignature, or modulate back to the key 4th —When the player upon the ſignatures of flats turns up a ♮, he muſt take off a flat from his ſignature, or go back to the key 5th. The particular inverſions of the leading chord, by which theſe modulations are to be made, muſt be determined, as before, by the die of broken ſtaves.

When the one player, upon the ſignatures of ſharps, caſts up the figure 5, he may move the notes on his clavier into the perfect chord of his 5th; and when the other player caſts up the figure 4, he may move into the perfect chord of his 4th. If the ſame figure reſpectively ſhall occur at the next throw, that key may be conſidered as eſtabliſhed, and the pin may be moved into its fundamental. If any thing elſe ſhall be caſt up, he muſt return to his former

mer or key chord, and proceed as directed by the die.

Thus the player upon the ſharp ſignatures advances in his game, or gains a ſtep *forward*, when he caſts up a tritone or ♯, and has a chance for doing ſo, when he caſts up 5; but he is carried *backwards*, or loſes ground, when he turns up ♮7, or ♮. Again, the player upon the flat ſignatures advances, or gains a ſtep forward, when he throws ♭7, or ♭, and has a chance for that when he throws 4, but is carried backwards when he throws a tritone, or ♮. Theſe chances of being carried backwards are put upon the dies, for the purpoſe of affording exerciſe in proceeding in both directions. In order, however, that the game may not be drawn out to too great a length, theſe turns or retrograde movements, may be regulated in the following manner.

A player is not to be turned back from his outſet, or firſt ſtation; and all throws which would have that effect, are to be conſidered as loſt. Each quarter of the circle is likewiſe to be conſidered as a ſtation from which, when he has gained it, he cannot

be turned back; namely, the keys of 3 ſharps and 3 flats—6 ſharps and 6 flats—9 ſharps and 9 flats.

In proceeding from his outſet to the firſt quarter of the circle, he may be turned back four times, but no oftener—from the firſt to the ſecond quarter, three times, and no more—from the ſecond to the third quarter, only twice—and from the third quarter to the outſet, only once. The number of turns, in all theſe caſes, is to be marked by putting up counters.

In re-advancing from any retrograde movement, the player is allowed to move his pin on the border, without being obliged to perform his exerciſe on the clavier, until he has regained the key from which he had been turned back; and if he is turned back from any key more than once, he is allowed to make his retrograde movements in like manner, by moving his pin on the border alone.

GAME VII.

PART II.

Modulations in the Minor Mode.

This part affords a ſimilar exerciſe upon regular modulation in the minor mode.

Each player ſets out from A, the fundamental of the minor ſcale of natural notes, and they proceed through the 12 keys, the one according to the order by 5ths, as in Plate XIX. No. 3. and the other according to the order by 4ths, as in Plate XX. No. 4. uſing the ſame dice, and obſerving the ſame rules, as in the former part.

PART

GAME VII.

PART III.

Modulation in both Modes.

The modulations practiſed in the two firſt parts, by which muſic paſſes from any key, major or minor, to the next key in the ſyſtem, of the ſame ſpecies, upon either hand, being thoſe which moſt frequently occur in muſic, may be called natural and regular. Muſic may alſo paſs eaſily and naturally by means of proper leading chords, from any major key to its relative minor, and from any minor key to its relative major. In the works of the modern compoſers, however, the muſic is often carried ſuddenly and unexpectedly, or by few ſteps, into a key which is conſiderably removed in the ſyſtem, from that in which it had formerly been. Theſe ſudden or diſtant tranſitions, are effected by various means, of which ſome of the moſt uſual are—changing the mode, or going

at

at once from the major to the minor, or from the minor to the major of the ſame fundamental—proceeding to the key of the minor 6th to the fundamental, of a major as well as of a minor ſcale—and changing the denomination, or the name of one or more of the notes of certain chords, particularly the chords of ſubſtitution or borrowed harmony, in the minor mode, and the chord of ſuperfluous 6th.

To afford exerciſe upon this kind of modulation, to thoſe who have made ſufficient progreſs in the ſtudy of muſic, the two dies No. 7. have been provided. Upon one of theſe, which may be called the *firſt die*, are the fundamental letters of all the major and minor keys, which have for ſignatures from one to three ſharps, and from one to three flats, each face preſenting two fundamentals, the one with a ſignature of ſharps, and the other with a ſignature of the ſame number of flats, and the fundamentals of major keys being diſtinguiſhed by capital letters, and thoſe of minor keys by ſmall letters; upon the other, which may be called the *ſecond die*, are exhibited in the ſame manner, the fundamentals of all the keys major and minor, which have for ſignatures from three to ſix ſharps, and from three to ſix flats.

flats. The general plan of the game may be as follows.

The firſt player throws the *first* die, and may chuſe either the fundamental with ſharps, or with flats, for the key from which he is to ſet out, and having made his election, he puts a pin into the ſame key letter in the border. The other player then throws the ſame die, and muſt take for his outſet key the one preſented, which is of the oppoſite ſpecies to that which had been choſen by the firſt player—in other words, he muſt take the key with a flat ſignature, if the firſt player had choſen that with a ſharp ſignature, and contrariwiſe: and he puts a pin into the ſame letter in the border. The firſt player then throws again. If his object is to modulate into the key minor or major relative, or into a key which is at no great diſtance from his outſet, he throws the firſt die; if his object is to modulate into ſome diſtant key, he throws the ſecond die. He muſt take, for the key into which he is to modulate, the one preſented, whether major or minor, which is of the ſame ſpecies with his firſt key, and put a pin into the correſponding letter in the border. The other player does the ſame, and muſt take for the key into which he is to modulate,

modulate, the one preſented, of the ſame ſpecies with his firſt key, and alſo mark it in the border.

The firſt player then ſets up the chord of his firſt key upon his clavier, and modulates or makes the notes of it paſs progreſſively into the other key, by whatever ſteps he may think proper; provided they be conſiſtent either with the ſtrict rules of muſic, or with the practice of claſſical compoſers: and for every ſharp and for every flat, which is thereby added to, or taken from the ſignature of his firſt key, he ſets up a counter. The ſecond player then proceeds to work his modulation in the ſame manner.

When a player throws next in turn, the key into which he has paſſed, and which is now upon his clavier, becomes his outſet key, and he muſt modulate from that into the key of the ſame ſpecies, preſented by the die. If his key is one of the ſecond die, he may either throw the ſame for relatives or near keys, or the other die for more diſtant keys.

When the die preſents a minor or major relative to the one upon the clavier, and the modulation into that

that key has been made, the player ſhall be entitled to a counter.

When the outſet key happens to be one of three ſharps, or three flats, the player may, along with the other die, throw the die upon which are the keys of C and A; and if either of theſe keys is turned up, he may at his option, proceed into it, or into the key preſented by the other die,

The player who firſt ſets up twelve counters, wins the game.

When this party is played by a maſter and an advanced pupil, the different keys which are preſented by the dies to be modulated into, may afford various ſubjects of inſtruction and practice, as each throw may be conſidered as propoſing an harmonical problem, in the ſolution of which, knowledge and ingenuity may be diſplayed. A Pianoforte ought to be at hand, and every progreſſion made upon the clavier to be proved upon it.

FINIS.

PRINTED BY C. STEWART AND CO. EDINBURGH.